Otto-Friedrich
Universität
Bamberg

Faculty of Social Sciences, Economics and Business Administration

and

Faculty of Information Systems and Applied Computer Sciences

ECTS – GUIDE 2006/2007

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1 INTRODUCTION

1.1 General information

This booklet provides detailed information on course offerings at the Otto-Friedrich-University of Bamberg, Germany, *Faculty of Social Sciences, Economic and Business Administration* and *Faculty of Information Systems and Applied Computer Sciences*. It is directed to ERASMUS students and co-ordinators at their home institutions.
The booklet is for your guidance. It should serve to answer the many questions ERASMUS students have prior to, and on their arrival in Bamberg. It should also serve to inform the co-ordinators and advisors at the participating universities about the assessment and accreditation of the work that a returning student has done in Bamberg.
We hope to improve this booklet continuously. Therefore, we are open to any comments that you, the reader, may have.

Please note that the information in this booklet is non-binding, and that Professors are free to add, revise or delete aspects of their courses at any time.

In fact, the information in this booklet is best supplemented by the official course directory ("Vorlesungsverzeichnis") of the University of Bamberg as well as current information usually available from each Professor at the beginning of a semester (for further details see the faculties homepages http://www.uni-bamberg.de/sowi and www.uni-bamberg.de/wiai).

It is our most sincere wish that this brochure, in facilitating the mobility of European students, will make a modest contribution to realising the goals that the various contemporary movements towards European integration are striving for, namely a peaceful and prosperous Europe, based on mutual understanding, acceptance and trust.

1.2 What is ECTS and how does it work?

ECTS stands for "European Community Course Credit Transfer System". ECTS is a pilot project forming part of the ERASMUS Programme (European Community Action Scheme for the Mobility of University Students). One of the main aims of ERASMUS is to promote academic recognition throughout the European Union so that it is easier for students to complete a portion of their studies abroad. As of the academic year 1992/93, ERASMUS has also applied to exchanges between an EU Member State and any country belonging to the European Free Trade Association (EFTA).

1.2.1 How does ECTS work?

ECTS was introduced during a pilot phase extending from the academic year 1989/90 to the academic year 1994/95. Five subject areas were selected for testing the ECTS mechanism: Business Administration, Chemistry, History, Mechanical Engineering and Medicine. One faculty or department from each of the 145 member institutions of higher education participated in the scheme. The results of this pilot phase were encouraging enough to convince the European Commission to implement it as part of the in-coming SOCRATES programme, which will incorporate, re-structure, and expand the existing ERASMUS programme.
ECTS is a decentralised system based upon the principle of mutual trust between participating institutions. The few rules of ECTS, which concern information (on courses available), agreement (between the home and host institutions), and the use of credit points (to indicate student workload), are intended as reinforcement of this mutual trust. Each ECTS

department describes the courses it offers not only in terms of content, but also in terms of the credits assigned to each course.

1.2.2 The allocation of credit points to courses

ECTS is a credit system based on student workload. Student workload refers to the time spent in lectures, internships, and independent study. It includes all the work needed to prepare for examinations and to meet academic requirements.
The basic allocation of academic credits in the ECTS is 60 credits per year of study, 30 credits per semester, or 20 credits per trimester or term. It is important that no special courses be set up for ECTS purposes. All ECTS courses should be mainstream courses of the participating institutions, as followed by home students under normal regulations.
It is up to the participating institutions to assign credits for the different courses relative to their workload. Internships (work placements) and optional courses are also assigned academic credit, but only if they form an integral part of the study programme. Non-credit courses may, however, be included on a student's transcript. Credits are awarded only if a course has been completed, all requirements have been met and examinations passed.

1.2.3 ECTS students

Students participating in the ECTS will receive full credit for all academic work successfully completed at any of the ECTS partner institutions. These academic credits may be transferred from one participating institution to another as long as there has been prior agreement between the institutions involved.
All students participating in the ECTS pilot scheme will go to a host institution in an EU Member State, study there for a short period, and then return to their home institution. Some may decide to stay at the host institution and finish their degree there. Others may decide to proceed to a third institution and continue their studies. In each of these three scenarios, students will be required to comply with the legal and institutional requirements of the country and institutions where they take their degree.
When a student returns after successfully completing the study components agreed on in advance by the home and host institution, credit transfer takes place. The student then resumes his/her study programme at his/her home institution without loss of time or credit. If, on the other hand, the student decides to stay at the host institution and to take his/her degree there, he/she may have to adapt his/her study programme to comply with the rules of the host country, institution and department.

1.2.4 ECTS and the Faculty of Social Sciences, Economics and Business Administration and the Faculty of Information Systems and Applied Computer Sciences

The Faculty of Social Sciences, Economics and Business Administration and the Faculty of Information Systems and Applied Computer Sciences publish jointly an ECTS-Guide annually. Visiting students studying in Bamberg will have to apply for recognition of work done here at their home institutions. Whether this recognition is granted will depend in many cases on the course description given to the home faculty. Therefore, it is important that you clarify, with the help of the descriptive pages in this booklet, whether your university will accredit the courses taken here. You are advised to find out about course requirements from your home faculty before you come to Bamberg, and whether they will recognise the programme of study you intend to follow here.

1.2.5 The ECTS Grading System

Examination and assessment are usually expressed in grades. However, many different grading systems co-exist in Europe. Moreover, the issue of grade transfer was highlighted as a major concern by student participants in the ECTS, as indeed it has been for mobile students in general. The situation is further complicated by the fact that the interpretation of grades varies considerably from country to country, and indeed from institution to institution,

and that the failure to effectively communicate grades might have serious consequences for mobile students.
As a result, the Commission of the European Community convened a working group of experts in order to identify the issues involved. Information, comments and statistical data provided by 80 out of the 84 institutions participating in the ECTS at that time were taken into account to refine the proposed ECTS grading scale. All subject area groups agreed to use the ECTS grading scale in order to test its feasibility.
The ECTS grading scale has thus been developed in order to help institutions translate the grades awarded by host institutions to ECTS students. While it provides information on the student's performance additional to that provided by the institution's grade, though it does not replace the local grade. Higher education institutions make their own decisions on how to apply the ECTS grading scale to their own system. The ECTS grading scale allowed other institutions the flexibility to award an appropriate mark on their own scale for any incoming or returning students with ECTS grades.
The ECTS grade is to be indicated, alongside the mark awarded by the institution on the student's transcript, by showing the learning achievement of each student in terms of local grades and ECTS credits, and is to be issued either by the home institution or by the host institution before and after the period of study.
In debating the ECTS grading scale, consideration was given to strict numerical definitions based upon the ranking of students in the class and to more qualitative definitions based on a common understanding of keywords such as ‘good’ and ‘excellent’. Neither approach in itself was deemed to give satisfactory results. Indeed, a strictly numerical approach would define boundaries which might be irrational against national criteria and which might be impossible to draw if the national grading system discriminates only broadly. Similarly, clear differences appear between institutions in their understanding of keywords.
The ECTS grading scale is therefore based upon the combined use of appropriate keywords and numerical descriptions intended to assist in overcoming the transparency of the keywords.
The ECTS grading scale with keywords and percentage of successful students normally achieving the grade:

A	10%	Excellent	Outstanding performance with only minor errors
B	25%	Very Good	Above the average standard but with some errors
C	30%	Good	Generally sound work with a number of notable errors
D	25%	Satisfactory	Fair but with significant shortcomings
E	10%	Sufficient	Performance meets the minimum criteria
FX		Fail	Some more work required before the credit can be awarded
F		Fail	Considerable further work is required

2 BAMBERG AND ITS UNIVERSITY

2.1 The City

Bamberg looks back on a history which spans more than 1000 years. Mostly spared from the devastation of World War II, the city exhibits some of the most outstanding examples of buildings in Germany and was declared part of the world's cultural and natural heritage by UNESCO in 1993. More than 2000 buildings in Bamberg are listed architectural monuments, representing a wide spectrum of styles, such as Romanesque, Gothic, Baroque, and Classicism. Best known among these are the Cathedral (*Dom*), the churches *Obere Pfarre* and *St. Michael*, the New Bishop's Palace (*Neue Residenz*), and the Old Townhall (*Altes Rathaus*).
Bamberg today has a population of some 70.000 inhabitants. The city itself offers a large range of excellent music events, interesting theatre productions and numerous exhibitions. Of note here are the world-famous Bamberg Symphony Orchestra, concerts with internationally renowned performers in the new Concert Hall and the organ recitals in the Cathedral. In the world of sport, the basketball club TTL-Universa Bamberg, one of the top teams in the German league for years, should also be mentioned. The surrounding countryside, the „Fränkische Schweiz", is ideally suited for excursions by car and for hiking trips. In winter, there is sufficient snow for cross country skiing.
Further information: www.bamberg.de

2.2 The University

The Otto-Friedrich University of Bamberg looks back on a varied history of more than 350 years. Founded in 1647 as the „Academia Ottonia" by Bamberg's Prince Bishop Melchior Otto Voit von Salzburg, the institution first gained university status in 1735, when a Faculty of Law was established under Prince Bishop Friedrich Karl von Schönborn. In 1972, the modern university combined the former Philosophical and Theological College and the Teacher Training College to form an institution of higher education at university level („Gesamthochschule"). It was named University of Bamberg in 1979. Since 1988 it carries the name Otto-Friedrich University, referring to its two important founding fathers.
The university is divided into six faculties and a professional school:
Faculty of Catholic Theology
Faculty of Education, Philosophy and Psychology
Faculty of Language and Literature
Faculty of History and Geography
Faculty of Social Sciences, Economics and Business Administration
Faculty of Information Systems and Applied Computer Sciences
School of Social Work

The University Library contains approximately 1.4 million volumes. It meets the demands of its users by being divided into departmental libraries assigned to the faculties. The library user has access via computer to the most important sources of academic information, thereby assisting the user in the task of world-wide bibliographical research.
The University of Bamberg offers a modern, specialised range of courses in classical humanities as well as in the field of the social and economic sciences. The orientation towards the practical application of knowledge is a particular specialty of the courses offered in Bamberg, and is even prevalent in the humanities. It is possible, for example, to study German within the diploma course in combination with a choice of three special subjects (Journalism, Literary Evaluation and Interpretation or German as a Foreign Language). In addition to the extended range of languages offered at the university, the diploma course European Economics, amongst others, with its various optional subjects, meets the requirements of practical application which are set by the present European and international situation.

Currently approx. 8.800 students attend the University of Bamberg, among them more than 700 foreign students from over 60 countries worldwide. The university is engaged in student exchange programmes with currently 110 partner institutions in 31 countries. Exchange students at Bamberg are offered special services: Housing is arranged for them in university accomodation, they get a personal student tutor in the „Tandem-Programme“, a special three-week intensive German language and orientation course is offered to them prior to the start of the semesters in October and April, and an excursion programme is set up for them during the semesters with inexpensive tours to places like Berlin, Weimar, Heidelberg, Salzburg or Prague.

2.3 The Faculty of Social Sciences, Economics and Business Administration and the Faculty of Information Systems and Applied Computer Sciences

Contact Addresses:

Otto-Friedrich-Universität Bamberg
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Academic Calendar:

Student Registration:

Akademisches Auslandsamt
Markusstraße 6
D – 96045 Bamberg
Phone: ++49 951/863-1050
Email: auslandsamt@zuv.uni-bamberg.de

Winter Semester:	October 01st – March 31st
Lectures:	October 16th, 2006 – February 10th, 2007
Summer Semester:	April 1st – September 30th
Lectures:	April 16th, 2007 – July 21th, 2007

The Faculty of Social Sciences, Economics and Business Administration and the Faculty of Information Systems and Applied Computer Sciences:

The *Faculty of Social Sciences, Economics and Business Administration, and Information Systems* at the University of Bamberg grew out of a nucleus of Social Sciences in the late seventies. The *Faculty of Information Systems and Applied Computer Sciences* was established in 2001.
Officially founded in 1979, the *Faculty of Social Sciences, Economics and Business Administration* is now the largest faculty of the University of Bamberg.
Today, the faculty comprises a multitude of disciplines: Social Sciences, Political Sciences, Economics, Business Administration, Legal Sciences, and Statistics.
At present, the *Faculty of Social Sciences, Economics and Business Administration* offers programmes in Business Administration, Economics, Economic and Social Law, Social Sciences, Politics and other modules. Each programme leads to the *German University Diploma* degree, equivalent to studies on a graduate level elsewhere. The faculty comprises 32 professorships, and numerous teaching and research assistants. The faculty is completed by a varying number of guest lecturers. About 2500 students are enrolled in the different programmes.
The programmes in Business Administration, Economics, Politics, and Sociology are scheduled to last 4 years. The programme in European Management is designed for 4 ½ years of study. However, the number of students actually finishing after eight or nine semesters of study is relatively low. The average time taken to attend all lectures, write the diploma thesis, and prepare for the final exams is between 5 and 5 ½ years.

The programmes are structured as follows:

Basic Studies (“Grundstudium”); approx. 2 academic years
↓
Intermediate examination (“Diplomvorprüfung”)
↓
Advanced Studies (“Hauptstudium”); approx. 2 or 2 ½ academic years
↓
Final examination (“Diplomprüfung”)

Starting in 1994, the *Faculty of Social Sciences, Economics and Business Administration* and *the Faculty of Information Systems and Applied Computer Sciences* have introduced a credit point system for the Business Informatics / Information Systems, Business Administration, European Management, and Economics programmes. This credit point system has replaced the old block system almost entirely. In the block system, exams were divided into two major blocks, taking place after 4 semesters and 9 semesters of study. The credit point system should be familiar to students from foreign universities. The introduction of the credit point system at German universities will facilitate the international exchange programmes. Most modules are self-contained and the exams can be taken separately.
Please note that most courses at the *Faculty of Social Sciences, Economics and Business Administration* and at the *Faculty of Information Systems and Applied Computer Sciences* will be held in German. However, there is the opportunity of writing diploma theses and seminar papers in English.
Although many courses are offered once a year, there are courses which are offered every three or four semesters only. Please look at the official course directory (Vorlesungsverzeichnis) to ensure the availability of the program you want to attend!

Exams at the *Faculty of Social Sciences, Economics and Business Administration* take place after each semester. The tests are usually scheduled as follows:

Semester	*Written Examinations*	*Oral Examinations*
Winter Semester	February/March	April/May
Summer Semester	August	October/November

Should an ERASMUS student fail an exam, he or she is required to retake the exam on the scheduled date at the end of the following semester.
The exam mode for each course unit is indicated on the subject's descriptive page in this brochure and is compulsory.

2.4 Preparatory Course For Foreign Students

Starting 3 weeks before the beginning of the semester, this course is provided for all foreign students. Although participation is voluntary it is highly recommended, as exchange students will not only have the opportunity to meet each other, they will also improve their German language skills and cultural awareness. Classes are held from Monday to Friday and comprise a total of 60 hours of classtime. During this time the German lessons take place between 9.30 am and 1.00 pm. Additionally, the course fee includes a preparatory study course and leisure time programme (guided library tours, introduction to computer and e-mail use, lecture courses, help for the enrollment, guided tours, Bamberg city tour, excursions, end-of-course party).
Students may register for the course by completing the form 'Vorbereitungskurs' which must be returned by 30th June 2006. There is classification test at the beginning. The course fee of €125 should be paid on arrival in cash at the AAA.
You will receive a "Schein" with 8 ECTS credits for successful participation at the preparatory course. Regular attendance is required, i.e. if you miss classes more than twice without an excuse you will not receive a 'Schein'. Additionally, you will need to give an oral presentation as well as passing a written exam or writing a term paper.

Lector:
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3 MODULE DESCRIPTIONS: FACULTY OF SOCIAL SCIENCES, ECONOMICS AND BUSINESS ADMINISTRATION

3.1 Introduction

The following description of the different modules comprises the programme of each module during the **basic studies** (Grundstudium) and **advanced studies** (Hauptstudium).
Studying the modules of advanced studies normally requires the following schemes:

Germany: after the intermediate examination (Diplomvorprüfung)
France: after the first year of study in a French Business School (recruiting from CP/HEC or two-year-degree) or after obtaining the degree „Licence“ from a French university
Great Britain: after the second year of study
Spain: after the first cycle of study.

To understand the following descriptions here are some explanations: „Part of the final examination in...“ means: the whole final examination (Diplomprüfung) of each module consists of a 4 hour written and 20 minutes oral examination.
For some seminars, students have to register at the appropriate chair. Therefore students have to contact the chair in order to get the registration dates and/or prerequisites.

As some chairs have already changed to the Bachelor System you will also find course descriptions that differentiate between **Bachelor** and **Master**.

3.2 Module Descriptions: Business Administration

3.2.1 Finance

Prof. Dr. Andreas Oehler
Chair of Business Administration and Finance
Kirschäckerstr. 39
D-96045 Bamberg
Tel.: +49/0951 / 863-2537
Fax: +49/0951 / 863-2538
Email: andreas.oehler@sowi.uni-bamberg.de
Internet: http://www.uni-bamberg.de/sowi/finanz/home.html

Requirements: 100% Attendance; course language: German

Bachelor Program

Prerequisites: Basic knowledge and understanding of theories and concepts in business administration and management.

Corporate Finance I :
Entrepreneurial Finance/Venture Capital, Private Equity, IPO/Going Public
Registration: Pre-semester, please look at notice board for current news

- Introduction to Corporate Finance and Financial Management, Financial Markets, Financial Intermediation and Financial Risks
- Venture Finance and Going Public
- Case studies on start ups and entrepreneurship with a fokus on budgetary planning and liquidity

Hours per Week / Semester: 3 / winter	**Teaching Method:** Lecture & Presentation
Credits: 5	**Examination**: Case studies, presentation of a paper, discussion

Corporate Finance II : Financial Analysis & Evaluation
Registration: Pre-semester, please look at notice board for current news

- Financial accounting and its legal framework
- Financial statement analysis and financial reporting
- Firm valuation and its theoretical framework
- Real option approach and its theoretical framework
- Firm valuation through the market cycle

Hours per Week / Semester: 3 / winter	**Teaching Method:** Presentations, assignments, discussion
Credits: 5	**Examination**: Presentation of a paper, contributions to the general discussion

International Corporate Finance
Registration: Pre-semester, please look at notice board for current news

- Introduction to Corporate Finance and Financial Management, Financial Markets, Financial Intermediation and Financial Risks
- IPOs in major national and international: rules and frameworks
- IPOs in major national and international: pricing
- IPOs in major national and international: underpricing and long-term performance
- Globalization and Markets: HGB, IAS/IFRS, US-GAAP; corporate governance; integration of financial markets; portfolio diversification (incl. Behavioral Portfolio Theory); banking systems

Hours per Week / Semester: 3 / winter	**Teaching Method:** Presentations, assignments, discussion
Credits: 5	**Examination**: Presentation of a paper, contributions to the general discussion

Financial Markets I : Market Efficiency, Asset Pricing & Valuation
Registration: First week of the current semester; please look at notice board for current news

- Informatonal efficiency and pricing in national markets
- General theories on equity pricing: Efficiency concept, random walk, fair game model, rational expectationsempirical results
- Portfolio theory and decision theory
- Theoretical market models: State preferenceapproach, CAPM, APT, empirical results
- Performance analysis: Risk-return trade off, measurement, empirical results

Hours per Week / Semester: 3 / summer	**Teaching Method:** Lectures, assignments, discussion
Credits: 5	**Examination**: Short presentation of a paper, 1 hour written exam

Financial Risk Management I : Market Risk & Derivates:
Registration: First week of the current semester; please look at notice board for current news

- Decision making under risk
- Fundamentals in risk management
- Pricing risks
- Market risk analysis
- Market risk control

Hours per Week / Semester: 3 / summer	**Teaching Method:** Lectures, assignments, discussion
Credits: 5	**Examination**: Short presentation of a paper, 1 hour written exam

Master Program

Financial Markets II : Market Microstructure, Noise & Behavioural Finance
Prerequisites: Bachelor degree. Courses in Corporate Finance I (or International Corporate Finance), Corporate Finance II, and Financial Risk Management I. Financial Markets I

Registration: Pre-semester, please look at notice board for current news

- Inefficiency and pricing in financial markets
- Stock exchanges as financial intermediaries
- Market microstructure: Theoretical framework, empirical & experimental results
- Noise trading
- Decision under ambiguity
- Behavioural Finance: Theories, concepts, empirical & experimental results; investment strategies, disposition effekt, prospect theory, analysts' behaviour, overconfidence, home bias, herding

Hours per Week / Semester: 3 / winter	**Teaching Method:** Lectures, assignments, discussion
Credits: 5	**Examination**: Short presentation of a paper, 1 hour written exam

Financial Risk Management II: Credit Risk & Contracts
Prerequisites: Bachelor degree. Courses in Corporate Finance I (or International Corporate Finance), Corporate Finance II, and Financial Risk Management I.

Registration: Pre-semester, please look at notice board for current news

- New Institutional Economics, agency theory
- Credit risk analysis: Single and portfolio risk
- Credit risk control: Single and portfolio risk, pricing
- Cross risk

Hours per Week / Semester: 3 / winter	**Teaching Method:** Lectures, assignments, discussion
Credits: 5	**Examination**: Short presentation of a paper, 1 hour written exam

Corporate Finance III : Corporate Governance & Control
Prerequisites: Bachelor degree. Courses in Corporate Finance I (or International Corporate Finance), Corporate Finance II, and Financial Risk Management I.

Registration: Pre-semester; please look at notice board for current news

- Financial institutions: Financial intermediaries and financial markets
- Financial institutions: The market for corporate control
- Corporate governance & control: Shareholder Value concept and theory of the firm; international legal framework
- Corporate governance & control: Investor protection and insider violations, an international comparison

Hours per Week / Semester: 3 / summer	**Teaching Method:** Presentations, assignments, discussion
Credits: 5	**Examination**: Short presentation of a paper, contributions to the general discussion

Corporate Finance IV : Capital Structure, Payout Policies & Rating
Prerequisites: Bachelor degree. Courses in Corporate Finance I (or International Corporate Finance), Corporate Finance II, and Financial Risk Management I.

Registration: Pre-semester; please look at notice board for current news

- Capital Structure and cost of capital: The traditional view; empirical evidence
- Capital Structure and cost of capital: New concepts; empirical evidence
- High yield bonds
- Rating: Theoretical framework and methods
- Rating consequences: Rating migration, rating changes
- Payout policies

Hours per Week / Semester: 3 / summer	**Teaching Method:** Presentations, assignments, discussion
Credits: 5	**Examination**: Short presentation of a paper, contributions to the general discussion

Financial Market & Monetary Integration (in Europe)
Prerequisites: Bachelor degree. Courses in Corporate Finance I (or International Corporate Finance), Corporate Finance II, and Financial Risk Management I.

Registration: Pre-semester; please look at notice board for current news

- Monetary systems and monetary integration up to World War II
- European negotiations, international monetary systems and the foundation of the European monetary system
- The European Economic and Monetary Union
- The Euro and Optimum Currency Areas
- Currency control by central banks
- Currency risk and currency risk management
- Country risk as a factor in international credit risk management
- Competition of international financial markets

Hours per Week / Semester: 3 / summer	**Teaching Method:** Presentations, assignments, discussion
Credits: 5	**Examination**: Short presentation of a paper, contributions to the general discussion

3.2.2 International Management

Prof. Dr. Johann Engelhard
Department of Business Administration and International Management
Kirschäckerstr. 39
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Tel.: +49/0951 / 863-2670
Fax: +49/0951 / 863-2671
e-Mail: johann.engelhard@sowi.uni-bamberg.de
Internet: http://www.uni-bamberg.de/sowi/intman

Prerequisite: Basic knowledge in Business Administration.

Basic Information: Foreign students are allowed to choose a course program in International Management on their own responsibility. A participation in any type of examination is possible only after registration via Flex Now!

Basic Studies (1st and 2nd year)

Principles of International Management
The basic course of International Management starts with a definition of management and its theoretical foundations. It also contains strategic and operational dimensions of management. In the course outline international management will be characterized by selected real life cases and examples. Further main topics are the cultural approach of Hofstede, internationalisation and its goals as well as categories of international management research.

Hours per Week / Semester: 3 / summer	**Teaching Method:** Lecture & Tutorial
Credits: 5	**Examination:** written *lecture specific examination* (1 hour)

Advanced Studies (3rd and 4th year)

Fundamental / Basic Principles I: Comparing the Concepts and Structures of Management in Different Countries and Regions
Scientific-systematic peculiarities of specific types of International Management; analysis of cultural differences between certain countries and resulting effects; overview of management in Japan; comparisons of Corporate Governance; europeanization of the Corporation Law.

Hours per Week / Semester: 2 / winter	**Teaching Method:** Lecture
Credits: 3	**Examination:** written or oral *lecture specific examination* (for foreign students only)

International Trade, International Cooperations, and Subsidiaries Abroad
Going abroad via entering and working on foreign product markets; internalization barriers; exploration, segmentation, selection of the foreign markets; forms of entering a foreign market (export, international joint ventures, strategic alliances, etc.) and theoretical explanation of the different choices of the forms of entry; strategies of foreign market exploration; globalization theory.

Hours per Week / Semester: 2 / winter	**Teaching Method:** Lecture
Credits: 3	**Examination:** written or oral *lecture specific examination* (for foreign students only)

Fundamental / Basic Principles II: Internationalization Processes and International Strategic Management
Internationalization as a part of the development of companies (analysis of its driving forces and explanation of the internationalization dynamism); concepts explaining the management of an international company; organizational structures; methods for coordination of the international combine; expatriates.

Hours per Week / Semester: 2 / summer	**Teaching Method:** Lecture
Credits: 3	**Examination:** written or oral *lecture specific examination* (for foreign students only)

Processes of Integration and Transformation in Europe: Strategic Implications
Analysis of different stages of European Integration; Common Market, European Monetary Union; corporate restructuring; development of transformation in Eastern Europe; privatization and reforms of the financial markets; management specifics of Eastern Europe; inflation accounting and organizational development.

Hours per Week / Semester: 2 / summer	**Teaching Method:** Lecture
Credits: 3	**Examination:** written or oral *lecture specific examination* (for foreign students only)

International Capital Markets and Foreign Exposures
Exchange rate risk; country risk; international capital markets; foreign exchange management; transfer pricing of MNCs; international going public; capital budgeting techniques; international accounting.

Hours per Week / Semester: 2 / winter	**Teaching Method:** Lecture & Tutorial
Credits: 3	**Examination:** written or oral *lecture specific examination* (for foreign students only)

Main Seminar
In the form of group projects, current issues of international corporations will be studied in more depth.

Hours per Week / Semester:	**Teaching Method:**
2 / summer	Seminar
Credits:	**Examination:**
3	Essay (15 pages), presentation, continuous assessment

Course of the general program

Internationalization and Business Ethics
Theoretical background; Internationalization of corporate activities as a catalyst of ethical problems; Arbitrage and leverage potentials of international corporations: Ethical-sensitive instruments; “Social Responsibility” of corporations: Points of reference and terminology of business ethics; Ethical standards and labels for best practice in business ethics; Theorizing Morality: Concepts of business ethics; Ethical problems of international business activity.

Hours per Week / Semester:	**Teaching Method:**
3 / summer	Lecture & Tutorial
Credits:	**Examination:**
5	written *lecture specific examination* (1 hour)

3.2.3 Management & Controlling

Univ.-Prof. Dr. Wolfgang Becker
Chair of Business Administration, Management and Controlling
Feldkirchenstr. 21
D-96045 Bamberg
Fon: +49 /0951 / 863-2507
Fax: +49 /0951 / 39705
E-Mail: ufc@sowi.uni-bamberg.de
Internet: http://www.professorwbecker.de

Requirements: course language: German

Bachelor Program

Controlling I:
Cost, Revenue and Profit Controlling

Cost, Revenue and Profit Controlling is a fundamental basis of value management and controlling both at university and in business. This undergraduate course is designed to impart basic knowledge of cost, revenue and profit accounting. A continuous case study is used in the lecture to provide a practical insight into all relevant instruments and methods.

The course itself covers the following main topics:

Introduction to finance and accounting; Controlling as a function of value based leadership; Basic principles of cost accounting; Profit and loss account; Absorption and direct costing; Cost type accounting (e.g. direct and indirect costs, imputed costs); Cost centre accounting (e.g. cost and allocation rates for product costing); Product costing (e.g. calculation of products and orders, activity-based costing); Standard cost accounting systems; Basic principles of revenue accounting; Contribution margin accounting (e.g. direct costing, multi-step); Break-even analysis; Basic principles of performance management.

Tutorials with special arithmetic problems of cost, revenue and profit accounting complement the foregoing course.

Hours per Week / Semester: 3 / every winter semester	**Teaching Method:** lecture / tutorial
Credits: 5	**Examination:** written examination (60 min)

Controlling II:
Fundamentals of Controlling

Prerequisites: Passed Examination of Controlling I. At the beginning of the course every student who wants to take the exam has to deliver a short presentation in Powerpoint. The presentation has to be based on an assigned article.

Basis for the formation of controlling; aims of controlling; controlling from informational; coordinating and output-oriented perspectives; the relationship between traditional business administration and controlling; controlling functions of a primary and derivative type; range of responsibilities of controlling; controlling and controllership; organization of controlling; value management, Balanced Value Map.

The course addresses also topical subjects of controlling.

Hours per Week / Semester: 3 / every summer semester	**Teaching Method:** lecture / seminar
Credits: 5	**Examination:** written examination (60 min) or alternative: presentation and short written examination

Management I:
Planning, Decision-Making and Control

Basic characteristics of business trading; phenomenology and terminology of planning, decision-making and control; types of synoptical and incremental planning; basic models of planning; processes, methods and instruments of planning, decision-making and control; structural and operational principles of integrated planning, decision-making and controlling systems; the scope of data-processing support of planning, decision-making and control, Scope of data-processing support of planning, decision-making and control; Management and Controlling Information systems.

Hours per Week / Semester: 3 / every winter semester	**Teaching Method:** lecture
Credits: 5	**Examination:** written examination (60 min)

Case Studies I:
Management Tools I

Operative and strategic hypotheses; analytic and prognostic instruments and qualitative and quantitative methods for the support of management and controlling activities within a management cycle (make-or-buy decision-making, scoring models, budgetary techniques, ABC analysis, break-even analysis, standard costing).

Hours per Week / Semester: 3 / every winter semester	**Teaching Method:** lecture / seminar / tutorial
Credits: 5	**Examination:** written examination (60 min)

Master Program

Controlling III:
Cost Management

Prerequisites: Bachelor Degree

Costs and determinants of costs; total-cost management; total-value engineering; target costing through market and profitability-oriented demand-cost determinants; competition orientation through benchmark costing; planning, determination and contro-l of costs within the framework of standard costing systems; potential and production-process cost accounting and fixed cost policy; structure of multi-stage marginal costing, break-even analyses; performance risk estimates and calculations

Hours per Week / Semester: 3 / every summer semester	**Teaching Method:** lecture
Credits: 5	**Examination:** written examination (60 min)

Controlling IV:
International Corporate Controlling

Prerequisites: Bachelor Degree

Basic Fundamentals of Corporate Groups, Types of Corporate Groups, Portfolio-Management in Corporate Groups, Management of synergetic effects, International Aspects of Corporate Groups, Management Accounting in Corporate Groups

Hours per Week / Semester: 3 / every winter semester	**Teaching Method:** lecture / seminar
Credits: 5	**Examination:** Paper, presentation, written examination

Management III:
Strategic Performance Management

Prerequisites: Bachelor Degree

Business behavior in the operative and strategic decision-making horizon; developments and models of management concepts; principles of value management, Balanced Scorecard, strategic analyses and prognoses for the environment as well as the business itself; formulation of system-strategies; instruments and methods of formulating strategies; strategies of integrated cost and performance management; implementation of strategies, aims, functions and instruments of strategic controlling. Methods for measuring performance within the enterprise, Designing and Implementing Balanced Scorecards

Hours per Week / Semester: 3 / every winter semester	**Teaching Method:** lecture / tutorial
Credits: 5	**Examination:** written examination (60 min)

Case Studies II:
Management Tools II

Prerequisites: Bachelor Degree, passed examination of Management III

Operative and strategic hypotheses; analytic and prognostic instruments and qualitative and quantitative methods for the support of management and controlling activities within a management cycle (budgetary techniques, target costing, transfer pricing, pricing policy, modern cost analysis, value ratios).

Hours per Week / Semester: 3 / every summer semester	**Teaching Method:** lecture / seminar / tutorial
Credits: 5	**Examination:** written examination (60 min)

3.2.4 Marketing

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Bachelor Program

Fundamentals of Marketing
Overview over types and tasks of marketing oriented institutions and basic knowledge of decision facts and problems of marketing policy.

Hours per Week / Semester: 3 / summer	**Teaching Method:** Lecture & Tutorial
Credits: 5	**Examination:** 1 hour written examination

Market-oriented Management
Marketing basics; strategic and operative problems in the field of „before-sales marketing“ and „after-sales marketing“.

Hours per Week / Semester: 2 / winter	**Teaching Method:** Lecture
Credits: 3	**Examination:** 1 hour written examination

Master Program

Innovation Marketing
The content of this lecture will be developed soon. Further information will be available at the chair before lectures start at the latest.

Hours per Week / Semester: 2 / winter	**Teaching Method:** Lecture
Credits: 3	**Examination:** 1 hour written examination

Sectoral Marketing
Characteristics of the markets and marketing-policies in specific sectors; trade-marketing, service-marketing, industrial marketing and non-profit marketing.

Hours per Week / Semester: 2 / winter	**Teaching Method:** Lecture
Credits: 3	**Examination:** 1 hour written examination

Marketing Seminar (MA)
This marketing case-study-seminar is compulsory for the students of marketing (in the 2nd semester). The marketing seminar builds on the knowledge of the fields covered in the various marketing courses; it is sufficient to attend the lagging marketing courses parallel to the marketing-seminar in the second semester or later.
The seminar requires active participation from the students.

Prerequisite: Marketing and Environment, Innovation Marketing

Hours per Week / Semester: 3 / winter and summer	**Teaching Method:** Seminar
Credits: 5	**Examination:** Teamwork, presentation, discussion and 1 hour written examination at the end of the respective seminar

Marketing Intelligence and Buyer Behaviour
„Marketing-Intelligence“ denotes the support of marketing management by information or marketing knowledge which is relevant for the decision and thedecision maker.The lecture will focus on questions of market research and customer (data) analysis.
Market research is concerned with research designs and methods of investigation and evaluation of market data. The object of customer analysis is the targeted evaluation of individual customer data.

Buyer Behaviour includes aspects and approaches in connection with the information, buying and utilization behaviour of consumers and institutions.

Hours per Week / Semester: 2 + 2 / summer	**Teaching Method:** Lecture (both)
Credits: 6	**Examination:** 20 minutes oral examination

Course of the general programme

Marketing and Environment
Puts across general marketing facts like relevance of marketing oriented management, development of customer oriented offerings, marketing instruments and information. Furthermore, the lecture focuses on challenges for companies from the political, economic, social, technological and ecological environment. Concerning the ecological challenges, several concepts and instruments how to deal with these challenges will be discussed .

Hours per Week / Semester: 3 / winter	**Teaching Method:** Lecture & Tutorial
Credits: 5	**Examination:** 1 hour written examination

3.2.5 Organization and Human Resources Management

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Bachelor Program

Human Resources & Organization I

Objectives/contents:

The lecture offers a broad survey of the basics in both human resource management and organization of corporations. It aims at providing the students with the fundamental basics in human resource management and organization to be able to deal intensively with issues of this field.
The following topics will be dealt with in detail:

Basics in human resource management:

1. Analysis of workforce and assessment of manpower requirements
2. Recruitment and selection of personnel
3. Personnel placement
4. Personnel management
5. Evaluation, payment of personnel and career policy
6. Personnel layoff
7. Parameters of human resource management: industrial relations and workers' participation

Basics in Organization:

8. Formal Organization I: configurations
9. Formal Organization II: structural and process organization
10. Informal Organization

At the beginning of the semester students can buy a script. The charts from the lectures and additional literature references are printed in that script.

Hours per Week / Semester:	**Teaching Method:**
3 / winter	Lecture & Tutorial
Credits:	**Examination:**
5	1 hour written examination

Practice Seminar
Precondition for participation: Successful participation in “Human Resource Management and Organization I”

Objectives/contents:
In this seminar we want to give our students some practical insights into the reality of companies in the region. In groups, the students will interview practitioners concerning there experiences and viewpoints in personnel management and organization, which will be presented and discussed in the classroom.

Hours per Week / Semester:	**Teaching Method:**
2 / summer	Group work, seminar presentations
Credits:	**Examination:**
3	To be announced

Organizational Structures and Boundaries
Precondition for participation: Successful participation in “Human Resource Management and Organization I”

Objectives/contents:
Organizations are present throughout our whole life. We are learning and working in organizations, we spend parts of our leisure time in organizations. In this lecture we focus on commercial organizations. The analysis of structures within organizations is becoming more and more difficult due to complex environmental influences. These influences often obstruct the view on significant influencing factors on organizations. Additionally, companies engage more and more in complicated relationships with other companies and whole industries tend to become more dynamic.
Initial point of the course is on the one hand the observation that organizations have specific structures and specific features. On the other hand organizations are no isolated objects. In fact they have extensive relationships with their environment and there with other organizations. So the question arises: where are the boundaries of organizations? Both structures and boundaries are aspects of this lecture.
Objective of this course is to make students familiar with fundamental theoretical approaches and also practical implications of organizational theory.

Hours per Week / Semester:	**Teaching Method:**
3 / winter	Mixture of Lecture and Seminar
Credits:	**Examination**:
5	1 hour written examination + group presentation

Labour Markets and Incentive Policy
Precondition for participation: successful participation in “Human Resource Management and Organization I”

Objectives/contents:
In recent years the “war for talent” became a more and more important issue. Despite of unemployment it is very difficult for companies to find suitable or even the best possible employees for their organization.
The first part of the course is dealing with possibilities for organizations to stand the “war for talent”. Thereby the focus is put on (organizational) external and internal labor markets. An overview is given over the structure of these labor markets. In case of external labor markets it is shown how companies can define their “employee value proposition” and design their procedure of applicant selection. In case of internal labor markets emphasis is put on the design of career systems and its problems.

In the second part of the course we focus on the design of incentive systems. On the one hand incentive systems should be an instrument for attracting qualified employees and on the other hand they are supposed to commit these employees to the company. Thereby we are concentrating on incentive systems for executives, especially on the arrangement of stock options models, which can be seen as the central component of a flexible remuneration. For the evaluation of these models also motivational theories are discussed. The distinction between intrinsic and extrinsic incentives plays a special role.
This course aims at providing the students with analytical instruments as well as practical methods, which might be necessary for working in a company's human resource department or as an executive.

Hours per Week / Semester:	**Teaching Method:**
3 / summer	Mixture of Lecture and Seminar
Credits:	**Examination:**
5	1 hour written examination + group presentation

Entrepreneurship: Growth-orientated company formation
Precondition for participation: Basic lectures in Business Administration (mandatory module 1)

Objectives/contents:
In recent years the importance of the topic "entrepreneurship" has gained considerably. This lecture is meant to give an introduction into the topic as well as to provide tools for a potential job in an early stage enterprise – or even for company foundation.
At the same time we act on the assumption that also mature companies should look into topics on foundation to maintain and improve their own dynamic. In the English speaking world it is spoken of "intrapreneurship" instead of "entrepreneurship".
The adjunct "growth-orientated" emphasizes the aspect of foundation of technology-intensive enterprises, which are dependent on venture capital investors and are likely to employ numerous people in the future. Small and medium sized business start-ups are meant to a lesser extent.
One focus of this lecture lies on biotechnology. Biotechnology firms are often mentioned in association with highlighting specific aspects of company foundation.
Moreover business plans play an important role in this lecture. In particular sessions we deepen parts of designing a business plan.

Hours per Week / Semester:	**Teaching Method:**
3 / summer	Lecture & Tutorial
Credits:	**Examination:**
5	1 hour written examination + group presentation

Master Program

Human Resources & Organization II

Precondition for participation: Solid fundamental knowledge of "human resource management and organization", gained within a Bachelor program of study

Objectives/contents:

In the German theory of business administration "human resource management" and "organization" are usually divided into two different subjects. This lecture aims at giving an alternative, integrating view: A company's organization is seen as a medium that determines the performance of the employees. In the worst case it might be a kind of "iron cage" (Max Weber) which hinders motivation and creativity of the employees. Whereas in the best case the organization supports "empowerment" of its employees. Evidence is given that successful companies practice this empowerment.

This lecture is subdivided into 10 units:

Part 1: clarification of the relationship between companies, market and organization;
what makes companies to organizations and why is it economically useful to carry out transactions within an organization and not in the market?

Part 2: Following the new economic literature two fundamental problems are to solved in organizations: problem of coordination and motivation. It is obvious that these two problems lead to that what is traditionally called "human resource management". Especially at this point our integrative view turns out to be appropriate.

Part 3-6: Focus on different theories and perspectives dealing with the point of view on the problem of coordination and motivation. Emphasis is put on new economic approaches (Property Rights Theory, Transaction Cost Theory and Agency Theory), behavioral theories (Motivation Theory, Incentive/Contribution Theory), selected social academic theories (Theories of "life world" and Communication Media) as well as the resource based view of the firm, which plays an important role in the recently upcoming discussion on strategy. Hereby we focus on how companies can build up competitive advantages and how they can be defended against competitors.

Part 7: Incentive-compatible compensation and career policy; this is the last required ingredient for allowing us to have an intensive view on two unusual and therefore hopefully interesting fields of application: universities (*Part 8*) and music orchestras (*Part 9*). Afterwards we try to give an outlook on how the outlines of a concept of future-orientated organizations can be designed.

Overall you have to be aware of the fact that in this lecture we put our emphasis on the theoretical background. But theory is never seen as an end in itself but in connection with highly practical problems of coordination and motivation (as can be seen in our two units of applications). This may help to be able to structure and grasp complex issues.

Hours per Week / Semester:	**Teaching Method:**
3 / winter	Lecture & Tutorial
Credits:	**Examination:**
5	1 hour written examination + group presentation

The Future of Work and Leadership
Course and partial exam:

Precondition for participation: Solid fundamental knowledge of "human resource management and organization", gained within a Bachelor program of study; We suggest to participate parallel in "human resource management and organization II"

Objectives/contents:
The revolutionary development in information technology, which took place in recent years, and the resulting implications lead to far reaching changes of a company's organization. The course aims at providing an overview over potential changes in working and organizational structures.
One important phenomenon in this context is the creation of network or virtual organizations. This leads to changes in working structures as well: in former times standard employment relationships, definite working hours, local presence and obvious hierarchies have been the classical forms of organization of work. In the century of virtual organizations this is not true anymore. Key words like "tele-work", "tele-cooperation", "tele-learning", "free-lancer", "e-lancer", "virtual team work" and many more become more and more meaningful.
Of course, even today the majority of employees are employed in relatively well structured employment relationships and most of them have clearly defined working fields. But due to increasing flexibility issues, globalization and high pressure of the competitors companies are forced to assimilate, think controversial and modernize – even in the old economy nothing will stay the same. Thereby we are interested in the potentials arising through the described development for a better efficacy and efficiency for companies. Moreover the question of consequences for people resulting from the new work forms and again their implications for efficacy and efficiency of organizations is of interest.
Whatever the organization of the future will look like – "leadership" will play a central role. The second part of the course therefore deals with this topic. The most important leadership theories will be described and discussed; furthermore different examples of prominent executives will be dealt with extensively.
The overall aim of the course is to strengthen critical awareness for actual challenges in the field of human resource management and organization and to support the ability to discuss.

Hours per Week / Semester:	**Teaching Method:**
3 / winter	Mixture of Lecture and Seminar
Credits:	**Examination:**
5	1 hour written examination + group presentation

Strategic Management, Knowledge-based Organization and Organizational Change
Precondition for participation: Solid fundamental knowledge of "human resource management and organization", gained within a Bachelor program of study;
We suggest participating in "human resource management and organization II" beforehand

Objectives/contents:
The work in industrial countries has changed in recent years. Knowledge and skills form more and more the base of value creation; the importance of material resources is decreasing. Right now we find ourselves in the knowledge-based society. For individuals life-long learning turns out to be a necessary precondition for professional success. But also organizations have to learn permanently and broaden their knowledge on customers, products and markets for being able to survive in this dynamic environment. To put it different: Organizations are facing a continuous change. The question is how this change can be dealt with and which actual problems occur.
In this course the connection between the two topics "knowledge" and "change" should be stressed and relevant concepts and approaches be discussed. The objective of this course is to become familiar with essential theoretical and explanational approaches and practical implications in the fields of "knowledge" and "organizational change". Starting point is that both fields "human resource management" and "organization" cannot be separated, but complement one another. Either a knowledge-based organization or organizational learning cannot be considered independently from individuals. This means that in this course organizational and human resource aspects are closely linked to each other.
The conceptual framework of this course is offered by an introduction in the basics of strategic management.
After having attended this course all participants should be able to evaluate the possibilities and limitations of the discussed approaches and apply them to the analysis of actual developments and problems.

Hours per Week / Semester:	**Teaching Method:**
3 / summer	Mixture of Lecture and Seminar
Credits:	**Examination:**
5	1 hour written examination + group presentation

3.2.6 Financial Accounting, Auditing and Business Taxation

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Basic Studies (1st and 2nd year)

Annual Financial Statements
Objectives, structure and content of annual financial statements; preparation of balance sheets and profit and loss accounts according to German GAAP (HGB); discussing the notes to financial statements and the management report; basic differences between HGB and International Financial Reporting Standards (IFRS).

Hours per Week / Semester: 3 / summer	**Teaching Method:** Lecture & Tutorial
Credits: 6	**Examination:** 1 hour written examination + 30 min additional time for exchange students + dictionary for exchange students

Advanced Studies (3rd and 4th year)

Taxes and Decision I (Sources of income and tax options)
Description of sources of income; an introduction to corporate tax policy and instruments; an introduction to special and general areas of corporate tax policy; analysis of tax consequences as a result of corporate reorganization.

Hours per Week / Semester: 2 / offered in 3-semester cycle	**Teaching Method:** Lecture
Credits: 6	**Examination:** 2 hour written examination or 20 min oral examination (for exchange students only)

Taxes and Decision II: (Taxation of partnerships and corporations)
Tax points affecting the choice of legal form; taxation of partnerships and corporations; taxation of hybrid legal forms.

Hours per Week / Semester: 2 / offered in 3-semester cycle	**Teaching Method:** Lecture
Credits: 6	**Examination:** 2 hour written examination or 20 min oral examination (for exchange students only)

Taxes and Decision III: (Tax planning)
Methods of measuring tax consequences and methods for tax planning; tax policy related to the balance sheet; analysis of tax consequences as a result of transactions between affiliated enterprises; analysis of tax consequences as a result of transactions against recurring payments; analysis of tax consequences related to transfer of income sources and assets.

Hours per Week / Semester: 2 / offered in 3-semester cycle	**Teaching Method:** Lecture
Credits: 6	**Examination:** 2 hour written examination or 20 min oral examination (for exchange students only)

Auditing I: (The annual audit of the financial statement)
Basics regarding the audit of annual financial statements, especially the risk-based audit approach; auditing procedures relating to the annual financial statement; the audit report.

Hours per Week / Semester: 2 / offered in 3-semester cycle	**Teaching Method:** Lecture
Credits: 6	**Examination:** 2 hour written examination or 20 min oral examination (for exchange students only)

Auditing II: (Consolidated financial statements)
Basics of consolidated financial statements; content and form of consolidated financial statements according to German GAAP (HGB) and International Financial Reporting Standards (IFRS); the group management report, cash flow statements, statement of changes in equity and segment reporting; auditing and disclosure of consolidated financial statements.

Hours per Week / Semester: 2 / offered in 3-semester cycle	**Teaching Method:** Lecture
Credits: 6	**Examination:** 2 hour written examination or 20 min oral examination (for exchange students only)

Auditing III: (International financial reporting and special audits)
Accounting principles, concepts and the IASB's framework for the preparation and presentation of financial statements; asset recognition and measurement; accounting for liabilities; disclosure standards; summary of differences between International Financial Reporting Standards (IFRS) and German GAAP (HGB); special audits prescribed by law or of a voluntary nature; special purpose balance sheets.

Hours per Week / Semester: 2 / offered in 3-semester cycle	**Teaching Method:** Lecture
Credits: 6	**Examination:** 2 hour written examination or 20 min oral examination (for exchange students only)

Seminar
The seminar is a combination of three kinds of academic work: homework, presentation and discussion. The topics of the seminar cover the entire scope of accountancy and business taxation. Different topics covered in this seminar will be published at the end of the preceding winter semester.

Hours per Week / Semester:	**Teaching Method:**
2 / summer	Presentations and discussion
Credits:	**Examination:**
7	Paper (12 pages) + presentation + discussion

Auditing Theory and Practice
Contents of this module are the basics, the concept and the realization of the auditing process. This module is offered by Prof. Dr. Wolfgang Grewe, managing director of a large international auditing company.

Hours per Week / Semester:	**Teaching Method:**
2 / summer	Lecture & Tutorial
Credits:	**Examination:**
6	Case study

International Consolidated Financial Statements
Contents of this module are the basics, the concept and the realization of an international accounting process in the perspective of the central role of the consolidated financial statement and the special importance of International Financial Reporting Standards (IFRS) and US-Generally Accepted Accounting Principles (US-GAAP). This module is offered by Prof. Dr. Wolfgang Grewe, managing director of a large international auditing company.

Hours per Week / Semester:	**Teaching Method:**
2 / winter	Lecture & Tutorial
Credits:	**Examination:**
6	Case study

Course of the general program

Corporate Development and Corporate Taxation
This course covers the topics choice of legal form, shareholder value management, business valuation and an introduction to taxation of partnerships and corporations.

Hours per Week / Semester:	**Teaching Method:**
3 / winter	Lecture & Tutorial
Credits:	**Examination:**
6	1 hour written examination + 30 min additional time for exchange students + dictionary for exchange students

3.3 Module Descriptions: Economics

3.3.1 Monetary Economics

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Bachelor Program

Macroeconomics 1
Introduction to Macroeconomics and Macroeconomic Accounts, Microfoundations, Private Sector Demand, Consumption, Investment, Current Account, Real Exchange Rate, Purchasing Power Parity, Marshall-Lerner-Condition, Money Demand, Money Supply, Monetary Policy, IS-LM.

Hours per Week / Semester:	**Teaching Method:**
3 / winter	Lecture & Tutorial
Credits:	**Examination:**
9	1 hour written examination

Macroeconomics 2
Labour Market: Labour Supply, Labour Demand, Imperfect Competition, Unemployment, Trade Unions, Search Unemployment; Output and Employment; General Equilibrium; Flexible versus Fixed Prices; Aggregate Supply and Demand AS-AD; Phillips Curve.

Hours per Week / Semester:	**Teaching Method:**
3 / summer	Lecture & Tutorial
Credits:	**Examination:**
9	1 hour written examination

European Labour Markets
Descriptive evidence, European labour market institutions, stock flow model, incomplete competition on labour and product markets, NAIRU, efficiency wages, nominal and real wage rigidities, labour market regulation, disincentives from labour taxes, stabilization policy, case studies (Netherlands, UK, Germany), low inflation and the labour market, EU enlargement.

Hours per Week / Semester:	**Teaching Method:**
3 / winter	Lecture & Tutorial (small group assignments)
Credits:	**Examination:**
6	1 hour written examination

European Monetary Policy
Descriptive evidence, European monetary institutions, European monetary history, ad hoc and efficiency based approaches to monetary policy, AD-AS model, dynamic AD-AS model, OLG model, monetary transmission, empirical models, long term and short term approaches to monetary policy, optimum inflation, monetary policy strategies, monetary policy framework, monetary policy instruments, evaluation of European monetary policy.

Hours per Week / Semester:	**Teaching Method:**
3 / summer	Lecture & Tutorial (small group assignments)
Credits:	**Examination:**
6	1 hour written examination

Master Program

Monetary Economics 1: Introduction to Monetary Theory and Monetary Policy
Money demand, money supply, equilibrium in the money market, monetary aggregative models, transmission of monetary policy, inflation, monetary policy strategies, time inconsistency of monetary policy, independence of central banks, money market, monetary policy instruments.

Hours per Week / Semester:	**Teaching Method:**
3 / summer	Lecture & Tutorial (small group assignments)
Credits:	**Examination:**
6	1 hour written examination

Monetary Economics 2:
Modelling Monetary Economies – General Equilibrium Approaches
General equilibrium modelling, welfare analysis, monetary and non-monetary exchange, inflation, seignorage, exchange rate, monetary policy surprises, credit, capital, intermediation, regulation of intermediation, reserve requirements, money and output, backed reserves, payment system, bank runs.

Hours per Week / Semester:	**Teaching Method:**
3 / summer	Lecture & Tutorial (small group assignments)
Credits:	**Examination:**
6	1 hour written examination

Monetary Economics 3: Advanced Monetary Theory and Monetary Policy
Search theoretic model, cash-in-advance, nominal price rigidity, nominal wage rigidity, zero lower bound of nominal interest rates, monetary models of open economies, monetary policy in open economies, monetary union, empirical modelling strategies, monetary and fiscal policy.

Hours per Week / Semester:	**Teaching Method:**
3 / winter	Lecture & Tutorial (small group assignments)
Credits:	**Examination:**
6	1 hour written examination

Monetary Economics 4: Current topics in Monetary Policy
In the seminar students prepare a paper (15-20 pages) and present it in class. The topics vary from semester to semester. During the preparation of the paper students report on their progress in class (three very short presentations).

Hours per Week / Semester:	**Teaching Method:**
2 / winter	Seminar
Credits:	**Examination:**
6	Paper Presentation

3.3.2 Insurance Economics

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Basic Studies (1st and 2nd year)

Microeconomics 1:

Introduction to Microeconomic Foundations, Part I: Introduction to Axiomatic Modelling of Household Behavior. Theory of Consumer Demand: Budget Constraint, Preferences, Utility Functions, Household Demand, Consumer Demand, Slutsky Equation. Theory of Consumer Supply. Intertemporal Choice. Uncertainty.

Hours per Week / Semester: 3 / winter	**Teaching Method:** Lecture and Tutorial
Credits: 6	**Examination:** 1 hour written examination

Advanced Studies (3rd and 4th year)

Non-personal insurance

Automobile insurance, liability insurance, building insurance, their historical development, economic importance, calculation principles and different types of contracts.
The courses in insurance economics are lectured for the last time in winter 2006/2007.

Hours per Week / Semester: 2 (winter 2006)	**Teaching Method:** Lecture
Credits: 6	**Examination:** *Part* of the final examination in „Insurance Economics“ (see below) --- 1 hour written examination

Seminar on Insurance Economics

Current issues selected from a broad range of insurance related topics.
The courses in insurance economics are lectured for the last time in winter 2006/2007.

Hours per Week / Semester:	**Teaching Method:**
2 / summer	Seminar
Credits:	**Examination:**
6	graded paper, presentation

Final Examination

The final examination in insurance economics consists of four 1 hour lecture specific written examinations (Introduction and Risk Transformation Theory are obligatory and two of the other three lectures have to be chosen) and 20 minutes oral examination on the topics of all five lectures.
The courses in insurance economics are lectured for the last time in winter 2006/2007.

Course of the general program

Growth Theory

Postkeynesian growth theory (Harrod, Domar), neoclassical growth theory (Solow), technical progress, optimal growth, growth and environment, growth policy, economic structure, input-output-analysis.

Hours per Week / Semester:	**Teaching Method:**
2 / winter	Lecture
Credits:	**Examination:**
6	1 hour written examination

3.3.3 International Economics

N.N.
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Bachelor Program

Macroeconomics I

This course – in combination with Macroeconomics II – offers an integrated introduction to macroeconomic theory and policy. Starting from principles in national accounting, the concept of a Keynesian economy with unemployment is developed for closed and open economies. Part one of the lecture concentrates on the static and dynamic adjustment of the goods market. The basic framework covers both the macroeconomic aspects of government activities and the open economy with fixed and flexible exchange rates.

Hours per Week / Semester:	**Teaching Method:**
3 / winter	Lecture & Tutorial
Credits:	**Examination:**
6	1 hour written examination

Macroeconomics II

Following on from Macroeconomics I, this sequel adds basic ideas of money and banking and presents IS-LM analysis as the standard framework to study monetary and fiscal policies. The Classical System is presented as a frictionless economy with completely flexible adjustments in labor-output- and capital-markets. An outlook is given to the more elaborate AD-AS analysis. Macroeconomics I is a prerequisite.

Hours per Week / Semester:	**Teaching Method:**
3 / summer	Lecture & Tutorial
Credits:	**Examination:**
6	1 hour written examination

Introduction to European and International Economics

This course aims at giving a conceptual and theoretical introduction to the German economy as a widely open economy embedded within the Euro-zone (EMU). Topics covered are: balance of payment accounts derived from national accounting principles, foreign exchange markets, fixed and flexible exchange rates, capital mobility, interest parity, purchasing power parity, overshooting exchange rates, EMU as an optimal currency area, the current international monetary system including China, the Ricardian theory of international trade and division of labor.

Hours per Week / Semester:	**Teaching Method:**
3 / summer	Lecture & Tutorial
Credits:	**Examination:**
6	1 hour written examination

Output, Inflation and Economic Stability

The main focus of this course is the macroeconomic analysis of the price level and/or the inflation rate using the AD-AS framework. Following Sargent (1987) the macroeconomics of a Classical system is discussed and contrasted with a Keynesian system. Foundations for aggregate demand and aggregate supply curves are given, and Keynesian and Classical unemployment is explained. Demand and supply-side strategies are considered as different policy instruments to obtain full employment. Short run economic fluctuations are explained using the trade-off between inflation and unemployment in a dynamic AD-AS framework. Wage conflicts between employers and trade unions and their purchasing power doctrine of a wage increase are discussed critically.

Hours per Week / Semester:	**Teaching Method:**
2 / winter	Lecture
Credits:	**Examination:**
6	1 hour written examination

Intertemporal Macroeconomics

This lectures deals with rational forward looking agents, i.e., households and firms who decide on consumption or saving, and business investment. After a short introduction into the main areas of intertemporal thinking (life-cycle model, OLG model and Ramsey model) the lecture presents the two-period model without investment (Fisher approach) and with investment (Frenkel-Razin). We analyse the concept of real and nominal interest. There is a comparison between the net-present value approach and the capital-cost approach. In the second part the capital market is opened and we consider the intertemporal approach to the current account. Here the discussion covers the foreign debt problem for an open economy and its welfare implications. The lecture ends with a perspective on the virtues and dangers of an unfettered international capital market.

Hours per Week / Semester:	**Teaching Method:**
2 / summer	Lecture
Credits:	**Examination:**
6	1 hour written examination

Master Program

International Economics:

International Trade Theory and Policy:

The theory of international trade and investment including the intertemporal approach.

Comparative advantage and the Ricardian model of international trade; trade and wages; incomplete specialization and income distribution in the specific factor model (Ricardo-Viner model); factor abundance and the Heckscher-Ohlin model; international factor mobility: labor and capital; new theories of international trade; the intertemporal approach to explain the current account; sustainability of foreign debt.

Hours per Week / Semester: 3 / summer	**Teaching Method:** Lecture
Credits: 6	**Examination:** One hour written exam at the end of the semester, or graded paper and presentation

International Trade Theory and Policy.

New approaches to foreign trade theory and policy

Foreign trade with resources and intermediate input: broken value-added chains in open economies, international factor mobility: labor and capital equipment; growth and foreign trade: neoclassical economic growth; intertemporal approach: foreign indebtness and foreign assets in the Fisherian model of open economies with investments, foreign trade policy: goals and instruments, globalization with outsourcing, off shoring and dislocation of production.

Hours per Week / Semester: 3/ summer	**Teaching Method:** Lecture
Credits: 6	**Examination:** One hour written exam at the end of the semester, or graded paper and oral examination

International Macroeconomics:

Exchange rate and macroeconomics of the open economy

Aim of this course is the assessment of the potentials deriving from macroeconomic policy for an economy, whose goods and capital markets are influenced by an extensive European integration and by the world economy-
Topics covered by this course are: exchange rate, effects on balance of trade and national income; international correlation of the business cycle: analysis with two countries; internal and external equilibrium: coordination of economic policy; stabilization policy with fixed or flexible exchange rates; International correlation of the business cycle with goods and financial markets; exchange rate expectations and capital market approach in the exchange rate theory.

Hours per Week / Semester: 3 / winter	**Teaching Method:** Lecture
Credits: 6	**Examination:** One hour written exam at the end of the semester; or graded paper and presentation

International Macroeconomics:

Raw material crises and European Monetary Union

Aim of this course is a theoretically founded better understanding for macroeconomic effects from the supply side of an open economy. Contents of this course are: wages, prices and employment in the open economy; raw material crises: open economies with imported inputs, stagflation as a result of oil price shocks; theory of optimal currency areas; macroeconomics in a monetary union: impacts of centralized monetary policy and decentralized fiscal policy, wage policy; exchange rate and currency crises: an overview.

Hours per Week / Semester:	**Teaching Method:**
3 / winter	Lecture
Credits:	**Examination:**
6	graded paper; or presentation and oral examination

Specific Macroeconomics:

Aim of this course is a balanced presentation of controversial positions in macroeconomics. Thus, the comprehension of economic recommendations and their critical assessment shall be encouraged. Topics covered by this lecture are: classical macroeconomics: Goods, capital and labor market; supply and demand shocks with governmental activity, intertemporal approach; complete Keynesian system (AD-AS model): price level and macroeconomic goods supply, monetary and fiscal policy as demand orientated stabilization policy; nominal wage policy as employment policy; dynamics of production, inflation and employment: Philipps curve, adaptive and rational price expectations, growth of the money supply, inflation and employment in a dynamic model of the business cycle.

Hours per Week / Semester:	**Teaching Method:**
3 / winter	Lecture
Credits:	**Examination:**
6	One hour exam, or graded paper

3.3.4 Public Finance

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Bachelor Program

Microeconomics 1
Introduction to Microeconomic Foundations, Part I: Introduction to Axiomatic Modelling of Household Behavior. Theory of Consumer Demand: Budget Constraint, Preferences, Utility Functions, Household Demand, Consumer Demand, Slutsky Equation. Theory of Consumer Supply. Intertemporal Choice. Uncertainty.

Hours per Week / Semester:	**Teaching Method:**
3 / winter	Lecture and Tutorial
Credits:	**Examination:**
6	1 hour written examination

Microeconomics 2
Introduction to Microeconomic Foundations, Part II: Axiomatic Modelling of the Firm, Partial and Total Equilibrium Analysis, Imperfect Competition. Theory of the Firm: Production Technology, Cost Minimization, Profit Maximization, Firm Supply, Industry Supply, Intertemporal Choice. Partial Equilibrium Analysis. Total Equilibrium Analysis: Perfect Competition, Supply, Demand, Equilibrium, Edgeworth Box, Pareto Efficiency. Imperfect Competition: Monopoly, Monopolistic Competition, Oligopoly. Game Theory (and Imperfect Competition). Externalities. Public Goods. Asymmetric Information.

Hours per Week / Semester:	**Teaching Method:**
3 / summer	Lecture and Tutorial
Credits:	**Examination:**
6	1 hour written examination

Public Economics 1: Introduction to Public Economics
The Public Sector in a Mixed Economy, The Public Sector in Germany, Welfare Economics, First-Best and Second-Best, Public Goods, Public Choice, Externalities, Cost-Benefit-Analysis, Taxation, Taxation and Growth, Public Debt, Social Security, Fiscal Federalism.

Hours per Week / Semester:	**Teaching Method:**
3 / winter	Lecture and Tutorial
Credits:	**Examination:**
6	1 hour written examination

Public Economics 2: European Public Finance
Fiscal Constitution, Revenue and Expenditure System in Germany and Europe, Tax Incidence, Taxation and Efficiency, Taxation and Equity, Optimal Taxation, Tax System and Tax Reform in Germany and Europe. Fiscal Federalism, Decentralization, Local Public Goods and Resource Allocation, Fiscal Equalization, Intergovernmental Grants

Hours per Week / Semester:	**Teaching Method:**
3 / summer	Lecture and Tutorial
Credits:	**Examination:**
6	1 hour written examination

Master Program

Public Finance 1: Allocation: Theory and Policy
General Equilibrium, General Equilibrium and Welfare Economics, Public Goods and Publicly Provided Goods, Externalities, Cost-Benefit Analysis, Public Choice, Public Administration and Bureaucracies.

Hours per Week / Semester:	**Teaching Method:**
3 / winter	Lecture and Tutorial
Credits:	**Examination:**
6	1 hour written examination or Research Paper

Public Finance 2: Taxation: Theory and Policy
Tax Incidence in a Competitive Equilibrium Model, Optimal Taxation, Taxation and Distribution.

Hours per Week / Semester:	**Teaching Method:**
3 / winter 2007/08	Lecture and Tutorial
Credits:	**Examination:**
6	1 hour written examination or Research Paper

Public Finance 3: Public Debt
Government and Growth, Growth and Dynamics, Public Debt and Growth, Public Debt and Stability, Public Investment and Economic Growth, Stability Pact in Europe, Social Security Issues, Fiscal Externalities in Federal States and Growth

Hours per Week / Semester:	**Teaching Method:**
3 / summer 2007	Lecture and Tutorial
Credits:	**Examination:**
6	1 hour written examination or Research Paper

Public Finance 4: International Taxation
International Tax Principles: Direct and Indirect taxes, VAT in the European Union, Capital Income Taxation and Resource Allocation, Double Taxation and Double Tax Treaties, Tax Competition and Tax Harmonization.

Hours per Week / Semester:	**Teaching Method:**
3 / winter 2006/07	Lecture / Main Seminar
Credits:	**Examination:**
6	1 hour written examination or Research Paper and presentation

Public Finance 5: Fiscal Policy

Neoclassical Synthesis, Fiscal Policy, Monetary Policy, Government Budget Restraint and Intrinsic Dynamics, Fiscal Externalities in Federal States.

Hours per Week / Semester:	**Teaching Method:**
3 / summer 2007	Lecture and Tutorial
Credits:	**Examination:**
6	1 hour written examination or Research Paper

3.3.5 Social Policy

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Basic Studies (1st and 2nd year)

Introduction to Economics
Introduction to microeconomic and macroeconomic foundations: Opportunity costs, market mechanism, household behavior, theory of the firm, macroeconomic ex post and ex ante analysis.

Hours per Week / Semester:	**Teaching Method:**
3 / winter	Lecture and Tutorial
Credits:	**Examination:**
6	1 hour written examination

Advanced Studies (3rd and 4th year)

An introduction to social policy
Stylized facts, historical background, the existence of the welfare state: social justice and market failure, the German social security system: retirement pensions, health care, poverty.

Hours per Week / Semester:	**Teaching Method:**
2 / winter	Lecture
Credits:	**Examination:**
6	1 hour written examination

Social policy and the labor market
The German Labor market, labor supply, labor demand, labor incentives: income taxes and benefits, income support, marginal employment.

Hours per Week / Semester:	**Teaching Method:**
2 / summer	Lecture
Credits:	**Examination:**
6	1 hour written examination

Health economics
The German health care system, defining health, willingness to pay, microeconomic model of health demand and supply, health insurance: private and public.

Hours per Week / Semester:	**Teaching Method:**
2 / summer	Lecture
Credits:	**Examination:**
6	1 hour written examination

Income inequality and poverty
The personal distribution of income in an international view: stylized facts, explaining the distribution of income, measuring income distribution, poverty and poverty measurement.

Hours per Week / Semester:	**Teaching Method:**
2 / winter	Lecture
Credits:	**Examination:**
6	1 hour written examination

Introduction to the German Socio-Economic Panel Study (GSOEP)
The GSOEP is an international-wide used representative longitudinal study of private households. The Panel was started in 1984. In 2000, there were more than 12,000 households, and more than 20,000 persons sampled. Learn to work with the GSOEP using SPSS, SAS or STATA.

Hours per Week / Semester:	**Teaching Method:**
2 / summer	Lecture and Tutorial
Credits:	**Examination:**
-	On request

Course of the general program

Distribution and redistribution of income
Macroeconomic theory of income distribution, measuring the personal distribution of income, microeconomic aspects of the wage structure, human capital theory, earnings equations, efficiency theory.

Hours per Week / Semester:	**Teaching Method:**
2 / winter	Lecture
Credits:	**Examination:**
6	1 hour written examination

Empirical microeconomics (Econometrics II)
Micro-data, the classical linear regression model, heteroskedasticity, linear models of panel data, binary choice models, maximum-likelihood estimation, logit and probit models.

Hours per Week / Semester:	**Teaching Method:**
2 / winter	Lecture and Tutorial
Credits:	**Examination:**
8	1 hour written examination

3.4 Module Description: Business Education

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Basic Information: The program prepares students for careers as teachers in vocational schools as well as trainers in business environments, human resource experts, consultants, and the like. Pedagogical and psychological modules make up roughly one fourth of the program, while the rest of the degree scheme consists primarily of business and management courses.

Basic Studies (Bachelor)

Introduction to educational studies
The goal of this module is to analyze the complex relationship between the individual and the organization and to reflect on resulting consequences with regard to constructive working and learning situations. The focus will be on basic problems of business education, research theories, pedagogical fields of action, as well as organizational and political structures of vocational education.

Hours per Week / Term:	**Teaching Method:**
4 / winter	Lecture and exercise course
Credits:	**Examination:**
6	90 minutes written examination

Learning and teaching in vocational education and training
This module deals with the various aspects of learning and their biological and psychological preconditions. There will be an overview of necessary contents, tasks and implications of learning processes. The module thus provides a basis for the design of effective and efficient learning processes in the context of business education.

Hours per Week / Term:	**Teaching Method:**
4 / summer	Seminar
Credits:	**Examination:**
6	90 minutes written examination

Advanced Studies (Master)

Learning and teaching arrangements/Self-organized Learning
Over the past two decades, there has been an increasing demand for innovative ways of learning and teaching. In this context, many authors have stressed the advantages of learning in complex environments. One adequate method is the so-called "self-organized learning"-approach. This way of teaching and learning resembles a complex problem solving process in which students actively learn in a realistic context. Characteristics and benefits of self-organized learning will be discussed in depth.

Hours per Week / Term: 4 / winter	**Teaching Method:** Lecture and exercise course
Credits: 6	**Examination:** None

Methods and results of research on teaching and learning
Students will get to know selected aspects and approaches of the present research on learning and instruction as well as current empirical results on instruction, learning, and teaching.

Hours per Week / Term: 4 / summer	**Teaching Method:** Lecture
Credits: 6	**Examination:** 90 minutes written examination

Educational management
This seminar provides the students with the fundamental basics of educational management.

Hours per Week / Term: 4 / winter	**Teaching Method:** Seminar
Credits: 6	**Examination:** oral exam (20 minutes)

Course of the general program

Introduction to scientific working methods
The aim of this module is to prepare students with the skills and techniques necessary to successfully master their degree as well as to meet the demands of professional life. Amongst others, students will learn how to effectively search for literature, how to structure and compose scientific texts and how to design and do presentations. Furthermore, the students get to know some basic empirical research methods. The practical applications are backed by the corresponding concepts of philosophy of science.

Hours per Week / Term: 4	**Teaching Method:** Lecture, Seminar
Credits: 5	**Examination:** Teamwork, presentation, discussion, and exam

3.5 Module Descriptions: Quantitative Methods/Statistics

3.5.1 Statistics

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Basic Studies (1st and 2nd year)

Statistical Methods I
Descriptive statistics and probability: frequencies; location and dispersion parameters; measures of concentration; correlation and regression; index numbers; seasonal adjustment; probability calculus; random variables; probability distributions; Chebychev inequality

Hours per Week / Semester:	**Teaching Method:**
3 (+ 1) / summer	Lecture + Tutorial
Credits:	**Examination:**
9	90 minute written examination

Statistical Methods II
Inferential statistics: law of large numbers; central limit theorem; point and interval estimation; significance tests (one-sample and two-sample tests; analysis of variance; chi-squared goodness-of-fit test); stratified samples; multiple regression; factor analysis

Hours per Week / Semester:	**Teaching Method:**
3 (+ 1) / winter	Lecture + Tutorial
Credits:	**Examination:**
9	90 minute written examination

Advanced Studies (3rd and 4th year)

Computational Statistics
Today almost all statistical data analyses are carried out with the aid of the computer. Therefore, Computational Statistics is devoted to basic statistical theory and concepts in conjunction with computing methods using the software package SPSS. Course Outline: overview of handling SPSS; descriptive statistics; inferential statistics, and multivariate data analysis

Hours per Week / Semester:	**Teaching Method:**
2 / summer	Lecture + Tutorial
Credits:	**Examination:**
6	1 hour written examination

Introduction to Econometrics
Classical multiple linear regression model: specification, estimation, inference and prediction; heteroskedasticity; autocorrelation; multicollinearity; simultaneous equations models

Hours per Week / Semester:	**Teaching Method:**
2 / summer	Lecture
Credits:	**Examination:**
6	1 hour written examination

Multivariate Data Analysis
Multivariate probability distributions; distance measures; factor analysis; multidimensional scaling; Procrustes analysis; analysis of variance; discriminant analysis; cluster analysis

Hours per Week / Semester:	**Teaching Method:**
2 / summer	Lecture
Credits:	**Examination:**
6	1 hour written examination

Seminar in Applied Statistics
A seminar is offered every winter semester. The topics cover the entire range of applied statistics and vary from semester to semester. They are announced at beginning of the semester.

Hours per Week / Semester:	**Teaching Method:**
2 / winter	Seminar
Credits:	**Examination:**
6	Presentation, discussion and paper

Microeconometrics
Models for panel data; models with qualitative and limited dependent variables; quantile regressions; duration and count data models

Hours per Week / Semester:	**Teaching Method:**
2 / winter	Lecture
Credits:	**Examination:**
6	1 hour written examination

Time Series Analysis
Smoothing techniques; seasonal adjustment; stochastic processes; Box-Jenkins ARIMA identification; time series models of heteroskedasticity

Hours per Week / Semester:	**Teaching Method:**
2 / winter	Lecture
Credits:	**Examination:**
6	1 hour written examination

3.5.2 Business Mathematics

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Basic Studies (1st and 2nd year)

Mathematik für Wirtschaftswissenschaftler I & II
Basic methods of differential and integral calculus and linear algebra as far as needed for the study of business administration and economics.

Hours per Week / Semester: 3 + 3 / winter and summer	**Teaching Method:** Lecture & Tutorial
Credits: 6 + 6	**Examination:** 2 hours written examination

Statische Optimierung und Entscheidungstheorie
Special methods of static optimization; basic concepts and techniques of decision theory.

Hours per Week / Semester: 3 / summer	**Teaching Method:** Lecture & Tutorial
Credits: 6	**Examination:** 1 hour written examination

Dynamische Optimierung und Stabilität
Methods for the study of dynamic systems: difference equations, differential equations, dynamic optimization techniques.

Hours per Week / Semester: 3 / winter	**Teaching Method:** Lecture & Tutorial
Credits: 6	**Examination:** 1 hour written examination

3.6 Module Descriptions: Economic and Social Law

3.6.1 European Community Law

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Basic Studies (1st and 2nd year)

Introduction to German Law
Introduction; legal institutions and sources of German law; criminal law and criminal procedural law; constitutional law – principles and institutions, basic rights and the constitutional complaint; general administrative law – different types of administration and of administrative actions, judicial review (informal and formal remedies); the German Civil Code – structure of the BGB, major principles, the general part and the law of obligations

Hours per Week / Semester: 3 / winter	**Teaching Method:** Lecture / Case Studies
Credits: 6	**Examination:** 1 hour written examination

Public Law I / Lecture
Constitutional Law (fundamental structures and principles of the „Deutsches Grundgesetz"); state organisational law; bodies of German legislation, administration and judiciary; basics of the doctrines of fundamental rights; specific German fundamental rights (par. 2, 3, 12, 14 GG); administrative law (including judicial protection)

Hours per Week / Semester: 2 / summer	**Teaching Method:** Lecture
Credits: 6	**Examination:** Part of the first examination (1 hour written examination)

Public Law I / Case Studies
Constitutional Law (fundamental structures and principles of the „Deutsches Grundgesetz"); state organisational law; bodies of German legislation, administration and judiciary; basics of the doctrines of fundamental rights; specific German fundamental rights (par. 2, 3, 12, 14 GG); administrative law (including judicial protection)

Hours per Week / Semester: 3 / summer	**Teaching Method:** Case Studies
Credits: --- (see above, lecture)	**Examination:** --- (see above, lecture)

Basics of European Law
General survey of the main areas of the law of the European Communities/European Union (historical development, structural principles, institutions, law-making).

Hours per Week / Semester: 2 / winter	**Teaching Method:** Lecture
Credits: 6	**Examination:** *Part* of the final examination in „European Community Law“ (4 hour written and 20 minute oral examination)

Advanced Studies (3rd and 4th year)

Free movement of goods and capital
Free movement of goods: prohibition of customs duties, quantitative restrictions on import/export and measures having equivalent effect; prohibition of discriminatory and protective internal taxation, transformations of trade monopolies; White Paper on the accomplishment of the internal market; import of goods from third countries, approximation of laws;
Free movement of capital: direct investments, participation in enterprises, acquisition of real estate; free movement of capital in relation to third countries; protective measures by member states; foreign exchange control and currency regulations.
Basics of the European Economic and Monetary Union.

Hours per Week / Semester: 2 / summer	**Teaching Method:** Lecture
Credits: 6	**Examination:** *Part* of the final examination in „European Community Law“ (4 hour written and 20 minute oral examination)

Free movement of persons and provision of services in the EC/EU
Freedom of movement for workers and members of their families, freedom of establishment for self-employed persons, entry and residence regulations; general right of residence, free movement of nationals of third countries, possible restrictions, consumer protection, public procurement, services in the area of banking, stock markets and insurance; broadcasting and other telecommunication services.
Basics of EC company law.

Hours per Week / Semester: 2 / summer	**Teaching Method:** Lecture
Credits: 6	**Examination:** *Part* of the final examination in „European Community Law“ (4 hour written and 20 minute oral examination)

Rates on Competition and Common Trade-Policy
Prohibition of cartels, prohibition of abuse of dominant positions, control of mergers, state aids, exemptions form competition rules; anti-dumping-law, GATT/WTO, trade and association agreements with third countries; treaty-making power of the EC/EU; trade-sanctions, protective measures.

Hours per Week / Semester: 2 / winter	**Teaching Method:** Colloquium
Credits: 6	**Examination:** *Part* of the final examination in „European Community Law“ (4 hour written and 20 minute oral examination) --- Essay (20 pages), presentation, continuous assessment

Recent developments in European Law
Topical cases of European Community Law, progressive development of the internal market, the Maastricht, Amsterdam and Nice Treaties and the follow-up in the fields of institutional and substantive European law, accession of new (associated) states.

Hours per Week / Semester: 2 / summer	**Teaching Method:** Seminar
Credits: 8	**Examination:** *Part* of the final examination in „European Community Law“ (4 hour written and 20 minute oral examination) --- Essay (20 pages), presentation, continuous assessment

Judicial protection in the EC/EU
Organization and functioning of the Community judiciary, proceedings in the ECJ and the Court of First Instance, infringement procedures, actions for annulment, actions for failure to act, actions for damages, preliminary rulings, opinions, interlocutory and incidental procedures, cooperation between the EC courts and the courts and tribunals of the member states.

Hours per Week / Semester: 2 / summer	**Teaching Method:** Seminar
Credits: 8	**Examination:** *Part* of the final examination in „European Community Law“ (4 hour written and 20 minute oral examination) --- Essay (20 pages), presentation, continuous assessment

Course of the general program

Basics of European and International Economic Law
Preliminary general survey of the main areas of the Economic law of the European Communities/European Union (structural principles, institutions, law-making process, free movement of persons and provision of services and free movement of goods and capital in the EC/EU); European Competition law (prohibition of cartels, prohibition of abuse of dominant positions, control of mergers, state aids, anti-dumping-law); Common Trade policy; GATT/WTO; trade and association agreements with third countries.

Hours per Week / Semester: 2	**Teaching Method:** Lecture
Credits: 6	**Examination:** Part of the final examination (1 hour written examination)

3.6.2 Private Law, Trade, Company and Economic Law

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Bachelor

Private Law
Basic principles of contract and tort law.

Hours per Week / Semester:	**Teaching Method:**
3 / summer	Lecture
Credits:	**Examination:**
5	2 hour written examination

Practical Course on Private Law
This course offers students already acquainted with the basic principles of Private Law the opportunity to deepen their knowledge of this subject.

Hours per Week / Semester:	**Teaching Method:**
1 / summer	Tutorial
Credits:	**Examination:**
2	Test

Trade Law and Company Law
This course provides an overview of German trade and company law. The first part of the course deals with basic principles of German trade law. Students are confronted among other things with the “Kaufmann”-term of theGerman Commercial Code and special rules of commercial transactions, the law of trade names and commercial register. The second part of the course deals with some basic notions of corporate law and with the legal structure of the different types of companies under German law.

Prerequisites: Private Law and Practical Course on Private Law

Hours per Week / Semester:	**Teaching Method:**
2 / winter	Lecture
Credits:	**Examination:**
3	1 hour written examination

Capital Market Law
The course focuses on three major areas: capital market organisation, information and liability. The class requires a basic knowledge of European community law.

Prerequisites: Private Law and Practical Course on Private Law

Hours per Week / Semester:	**Teaching Method:**
2 / summer	Lecture/Seminar
Credits:	**Examination:**
3	1 hour written examination

Unfair Trade Practices, Competition and Property Rights
This course focuses on the law against unfair competition (Gesetz gegen den unlauteren Wettbewerb) and relates it to Competition Law and Intellectual Property Rights.

Prerequisites: Private Law and Practical Course on Private Law

Hours per Week / Semester:	**Teaching Method:**
2 / winter	Lecture/Seminar
Credits:	**Examination:**
3	1 hour written examination

European Private Law
This course is designed to offer students detailed information about the increasing influence of the European Union on national legal systems. The emphasis will be on Consumer law but attention will also be paid to the initiatives the European Commission has undertaken in order to increase the overall coherence of European contract law.

Prerequisites: Private Law and Practical Course on Private Law

Hours per Week / Semester:	**Teaching Method:**
2 / summer	Lecture/Seminar
Credits:	**Examination:**
3	1 hour written examination

Colloqium
This course supports students in preparing for the final exams.

Prerequisites: Trade Law, Company Law and Capital Market Law

Hours per Week / Semester:	**Teaching Method:**
2 / winter and summer	Colloqium
Credits:	**Examination:**
0	

Practical Course on Trade Law, Company Law and Capital Market Law
This course offers students already acquainted with the basic principles of Trade Law, Company Law and Capital Market Law the opportunity to deepen their knowledge of this subject.

Prerequisites: Trade Law, Company Law and Capital Market Law

Hours per Week / Semester:	**Teaching Method:**
2 / winter and summer	Tutorial
Credits:	**Examination:**
0	

Master

European Economic Law
This course offers a coherent overview of the most important areas of European Economic Law, including: the European economic constitution, internal market and industry politics, internal market and grants, internal market and system of competition rules, market intervention of the state, legal protection

Prerequisites: Private Law and European Private Law

Hours per Week / Semester:	**Teaching Method:**
2 / winter	Lecture/Seminar
Credits:	**Examination:**
3	1 hour written examination

International Economic Law
The course is intended to discuss the organisation and the structure of the international economic legal system, GATT and WTO vs. UN and sub-organizations, international movement of goods and services, international intellectual property rights, international capital market rules, international dispute resolution mechanisms.

Prerequisites: Private Law and European Private Law

Hours per Week / Semester:	**Teaching Method:**
2 / summer	Lecture/Seminar
Credits:	**Examination:**
3	1 hour written examination

3.6.3 Public Law

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Bachelor (1st to 3nd year)

Introduction to Jurisprudence
Introduction into basic concepts, methods and institutions of law.

Hours per Week / Semester: 2 / summer	**Teaching Method:** Lecture
Credits: 4	**Examination:** 1 hour lecture specific written examination

Public Law I
Introduction into basic concepts, methods and institutions of public law (constitutional and administrative law).

Hours per Week / Semester: 4 / winter	**Teaching Method:** Lecture + Exercises
Credits: 8	**Examination:** 2 hour lecture specific written examination

Jurisprudential Analysis of Legal Decisions
Methodological analysis of leading cases of public law.

Hours per Week / Semester: 2 / winter	**Teaching Method:** Proseminar
Credits: 6	**Examination:** Essay (10-15 pages), presentation (30 minutes), continuous assessment

Public Economic Law
Legal framework of economics in constitutional and administrative law. Basic concepts, principles of public law regulation of economics.

Hours per Week / Semester: 2 / winter	**Teaching Method:** Lecture
Credits: 4	**Examination:** 1 hour lecture specific written examination

Master (4rd and 5th year)

Legal Philosophy
Concept of Law. Law and Morality. Legal Positivism. Legal Methodology. Justification of Norms. Human Rights. Law and Justice. Philosophy of Property Rights.

Hours per Week / Semester: 2 / winter (two-years-turn)	**Teaching Method:** Lecture/Seminar
Credits: 5	**Examination:** 1 hour lecture specific written examination

Legal Argumentation
Logical Structure of Norms and Legal Argumentation. Legal Interpretation. Weighing and Balancing. Judicial Law-Making. Constitutional Interpretation.

Hours per Week / Semester: 2 / winter (two-years-turn)	**Teaching Method:** Lecture/Seminar
Credits: 5	**Examination:** 1 hour lecture specific written examination

Constitutional Theory
Conceptual Frameworks of Public Law. Theory of Democracy. Theory of Basic and Human Rights. Constitutionalism.

Hours per Week / Semester: 2 / summer (two-years-turn)	**Teaching Method:** Lecture/Seminar
Credits: 5	**Examination:** 1 hour lecture specific written examination

General Theory of Law and State
Conceptual Frameworks of Public Law. Theory of the State. Division of Power. Federalism. Basics of International Law.

Hours per Week / Semester: 2 / summer (two-years-turn)	**Teaching Method:** Lecture/Seminar
Credits: 5	**Examination:** 1 hour lecture specific written examination

Human and Basic Rights
Theory of Human and Basic Rights. Basic Liberties; Equality Rights; Social Rights; Rights to Protection by the State; Institutional Guarantees. Comparative Perspectives.

Hours per Week / Semester: 2 / summer (two-years-turn)	**Teaching Method:** Lecture/Seminar
Credits: 5	**Examination:** 1 hour lecture specific written examination

Constitutional Law
German Constitutional Law: Political System; Principles of Democracy, "Rechtsstaat", Basic Rights, the Social State, Federalism. The Constitutional Court. Comparative Perspectives.

Hours per Week / Semester: 2 / winter (two-years-turn)	**Teaching Method:** Lecture/Seminar
Credits: 5	**Examination:** 1 hour lecture specific written examination Essay

Administrative Law
General Administrative Law according to German Law: Basics; Types of Administrative Action; Administrative Procedure; State Liability; Judicial Process.

Hours per Week / Semester: 2 / winter (two-years-turn)	**Teaching Method:** Lecture/Seminar
Credits: 5	**Examination:** 1 hour lecture specific written examination

Seminar: Public Law and Legal Theory
Selected Problems of Public Law, Legal Philosophy and Constitutional Theory. The Seminar will be integrated into the lectures listed above.

Hours per Week / Semester: 2 / summer (two-years-turn)	**Teaching Method:** Seminar
Credits: 8	**Examination:** Essay (20 pages), presentation (30 minutes), continuous assessment.

3.6.4 Labor Law and Law of Social Security

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Advanced Studies (3rd and 4th year)

Labor Law
Individual Labor Law (basic terms; law relating to employment contracts: conclusion of an employment contract, obligations of employee and employer arising from he employment contract; termination of the employment contract) and collective labor law (basic terms, trade union and employer's associations, law of collective agreement, legal principles of strikes and lock-outs, fundamental ideas of the constitution law, especially co-determination in social matters and staff maters).

Hours per Week / Semester: 2 (summer), 4 (winter) / summer and winter	**Teaching Method:** Lecture
Credits: 12	**Examination:** *Part* of the final examination in „Labor Law and Law of Social Security" (4 hour written and 20 minute oral examination) --- 2 hour written examination (only for foreign students)

Law of Social Security
Basic terms and social security system: Social Code, „net" of social security (social compensation, assistance to war victims, child benefit and child-raising allowance, housing allowance, educational assistance, social assistance, social insurance: health insurance, long-term care insurance, occupational accident insurance, unemployment insurance; protection of individual rights).

Hours per Week / Semester: 2 (winter) and 4 (summer) / winter and summer	**Teaching Method:** Lecture
Credits: 12	**Examination:** *Part* of the final examination in „Labor Law and Law of Social Security" (4 hour written and 20 minute oral examination) --- 2 hour written examination (only for foreign students)

Seminar
The seminar is a combination of the three kinds of academic work: homework, presentation and discussion. The topics of the seminar cover selected areas of Labor Law and Law of Social Security. Three weeks before the end of each semester the topics of the seminar of the following semester are published. The papers (homework) are collected with the beginning of the following semester.
A short guide for writing academical papers is available at the department.

Hours per Week / Semester: 2 / winter or summer	**Teaching Method:** Seminar
Credits: 4	**Examination:** Essay (15 pages), presentation (30 minutes), continuous assessment --- Seminar is prerequisite for the thesis

Colloquium for the final exam
Discussing the tasks of the last examination and the last special achievement tests for the preparation for the current examination (cases of Labor Law and Law of Social Security).

Hours per Week / Semester: 2 / winter or summer	**Teaching Method:** Colloquium
Credits: 4	**Examination**: Preparation for the final exam.

3.7 Module Descriptions: Sociology

3.7.1 Sociology I

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Basic Studies (1st and 2nd year)

Analysis of social structure – International and historic comparisons (Basic Courses)

Analysis of Social Structure I

Hours per Week / Semester: 2 / winter	**Teaching Method:** Lecture
Credits: 6	**Examination:** *1 hour written examination (exam for Analysis of Social Structure I takes place only after the end of the whole course at the end of the summer term!)*

Analysis of Social Structure II

Hours per Week / Semester: 2 / summer	**Teaching Method:** Lecture
Credits: 6	**Examination:** *1 hour written examination (exam for Analysis of Social Structure II takes place after the end of the whole course at the end of the summer term)*

Education, Family and Jobs in the Life Course (Applied Sociology)

The Chair of Sociology I continuously offers special applied seminars on sociology of the life course. Each of these seminars focuses on education, family or job transitions, or combinations of events across these life spheres. Also a seminar on international comparative life course research is offered from time to time.

Family and the Life Course
Lectures and seminars focus on following problems: 1) family and social class; 2) gender roles and division of labour within families: historical change, trends, women's lib, authority structures; 3) pluralization of family forms and living arrangements; 4) family as a solidarity system (contact, transfers, support); 5) starting a family: choosing a partner, marriage, generative behaviour, family developments

Education and the Life Course
Lectures and seminars focus on the following problems: 1) educational attainment and social origin; 2) educational careers and transitions in the school system; 3) gender and educational careers; 4) education and vocational training; 5) international comparison of educational institutions; In each area we focus on historical developments, theories, methodological questions and results of empirical studies.

Jobs in the Life Course
Lectures and Seminars included the following topics: 1) Education and entry into the labour market; 2) vocational training and transition into work; 3) determinants of career trajectories; 4) gender segregation and career development; 5) income inequality and job career.

Hours per Week / Semester: 2 / every semester	**Teaching Method:** Lecture or Seminar
Credits: 6	**Examination:** *Oral presentation and paper/1 hour written exam*

Advanced Studies (3rd and 4th year)

General sociology
The chair of sociology I offers seminars in general sociology about the following topics:

- Rational choice theory and the analysis of structural social change
- Social change as a diffusion process
- Theoretical and empirical foundations of international comparative research
- Globalization and social inequality

Hours per Week / Semester: 2/ winter or summer	**Teaching Method:** Seminar
Credits: 12	**Examination:** Essays and presentation/2 hour written exam

Family, life course and aging research (Applied Sociology)

The chair of sociology I continuously offers advanced seminars on advanced family, life course and aging research:

- Advanced life course research I
- Advanced life course research II
- Collecting life course data
- Secondary analysis of longitudinal data sets
- Event history analysis I: Continuous models
- Event history analysis II: Discrete models

Hours per Week / Semester: 2 / winter or summer	**Teaching Method:** Seminar
Credits: 12	**Examination:** Essay and presentation/2 hours written exam

3.7.2 Sociology II

Prof. Dr. Richard Münch
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Basic Studies (1st and 2nd year)

General Sociology (Basic Course) (first and second year)

Introduction into General Sociology I

History, Basic terms; Classics: Comte, Spencer, Pareto, Durkheim, Marx, Weber, Simmel, Mead.

Semester: Winter	**Hours per week**: 2 + 2	**Assessment**: none
Type of tuition: Lectures + Seminars	**Examination**: none	**Credits**: 0

Introduction into General Sociology II

Structural functionalism; Symbolic interactionism; Phenomenology and Ethno-methodology; Behavioral theory and Rational Choice; Systems theory; Critical theory.

Semester: Summer	**Hours per week**: 2 + 2	**Assessment**: certificate (2 hour written exam)
Type of tuition: Lectures + Seminar	**Examination**: Part of the first diploma exam in Sociology (4 hours written exam)	**Credits**: 8 on the basis of an assessment

Social theory (advanced courses)

Social theory (foundations) (third year)
Theories of Society, systems theory and critical theory

Semester: Winter/Summer	**Hours per week**: 2	**Assessment**: certificate (2 hour written exam)
Type of tuition: Seminar	**Examination**: Part of diploma exam	**Credits**: 6

Social theory (selected problems) (forth year)
Selected problems of social theory and contemporary debates

Semester: Winter/Summer	**Hours per week**: 2	**Assessment**: Seminar certificate (seminar paper)
Type of tuition: Seminar	**Examination**: Part of diploma exam	**Credits**: 6

Comparative Macrosociology (advanced courses)

Comparative macrosociology (foundations) (third year)
Theoretical foundations and empirical questions of comparative macrosociology

Semester: Winter/Summer	**Hours per week**: 2	**Assessment**: certificate (2 hour written exam)
Type of tuition: Seminar	**Examination**: Part of diploma exam	**Credits**: 6

Comparative macrosociology (selected problems)(forth year)
Selected problems and empirical research in comparative macrosociology

Semester: Winter/Summer	**Hours per week**: 2	**Assessment**: Seminar certificate (seminar paper)
Type of tuition: Seminar	**Examination**: Part of diploma exam	**Credits**: 6

3.7.3 European Studies in Social Sciences

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Basic Studies (1 st and 2 nd year)

Special Sociology „Organisational Sociology“
I. Organisations and society; Theory of the organisational society; II. Organisational theories: Theory of bureaucratic power according to Max Weber; Types of organisation/contingency approaches; Power structures, conflicts and negotiation processes in organisations; III. Organisational dimensions: Structures and processes of organisation; Individual and organisation; Membership as a social role; Forms of organisation-related knowledge; Organisational rationality and technology; Management and organisational cultures; Organisations and their environment (markets, company networks, cultures etc.); IV. The organisational society.

Hours per Week / Semester: 2 / winter	**Teaching Method:** Lecture or seminar
Credits: 6	**Examination:** 1 hour written examination or presentation and essay

Special Sociology „Labour and Innovation in a comparative perspective“
Basic terms; Theoretical approaches; Modernisation and structural change in economy, labour and job; The future of labour; Labour as the sense of life? Education and job; The end of the division of labour; Change in production structures/informatisation; Working hours, temporary work, time management, leisure time; The end of the labour society?; Vocational training; Industrial relationships and the regulation of employment.

Hours per Week / Semester: 2 / summer	**Teaching Method:** Lecture or Seminar
Credits: 6	**Examination:** 1 hour written examination or presentation and essay

Advanced Studies (3rd and 4th year)

Introduction to the comparison of European societies
Contents: I. Theory and methods of European Studies in Social Sciences (What is Europe? On the path to a European Identity? Europe in the perspective of classical sociological theories, methodological questions of cross-national comparisons). II. The political regulation of Europe (Europe between the nation-state and the global society, the institutions of the European Union, the political integration of Europe). III. European settlement and population structures (the European system of regions and cities, the transformation of the European population and family structures). IV. Work and Economy (work and management in Europe, occupational structures in Europe, European patterns of innovation). V. Social structures in Europe (European systems of education and training, social security and welfare states in Europe, social inequalities), VI. On the path to a European society?

Hours per Week / Semester: 2 / winter	**Teaching Method:** Lecture
Credits: 6	**Examination:** 1 hour written examination

Europeanizing and globalization in theoretical perspective
The spatial dimension in classical (Marx, Weber, Durkheim) and modern sociological approaches (Giddens, Bourdieu, Luhmann, Coleman) and current analyses of globalization.

Globalization can be defined as the expansion of social actions beyond national borders. The increasing impact of multinational enterprises and international finance, foreign direct investments, and trade are discussed in the center of the current debate on globalization. The hypothesis is put forward that economic globalization lead to an erosion of national chances for regulation. In this debate, the European Union is analyzed on one hand as a major driving force of current denationalization and liberalization processes, on the other hand as a chance for the development of new, supranational forms of regulation and governance. In the course announced here, we will at first discuss selected theories of globalization. Then specific aspects of economic and social globalization process will be analyzed. Finally, the process of European integration will be analyzed in the context of national patterns of regulation and economic processes of denationalization and globalization.

Hours per Week / Semester: 2 / summer	**Teaching Method:** Seminar
Credits: 6	**Examination:** 1 hour written examination

Political and institutional aspects of European Integration (the European multi-layer system, the enlargement of the EU, the social dimension of Europe, employment policies in Europe, innovation policies in Europe, industrial relations in an integrated Europe ...)

For example, a course on national patterns of employment and employment policies can be chosen. This course starts from the observation, that the continental and northern European countries have developed a highly coherent employment pattern, which is characterized by standardized employment forms, by highly regulated employment conditions, by high standards of social security and remuneration and by the priority of male full time jobs. These employment patterns are confronted with new challenges on the supply and on the demand side of the labor market - for instance with an ageing labor force, an intensified employment participation of women, more flexible work and organization arrangements and a stronger knowledge base of the economy. The discrepancies between these new challenges and past forms of employment and labor market segmentation explain rising unemployment rates and decreasing employment rates in many European countries. In the seminar announced here, some introductory texts on the segmentation and the institutional regulation of the labor markets will be discussed first. After a general overview of the rather unsatisfactory job market results in Europe, different European and non-European "success stories" will be discussed in detail. Then, different institutional patterns of transition between the labor market and other activities (education, child care, household activities, unemployment, ageing) are discussed. In view of the strong segmentation of European labor markets, the central dilemmas of the European labor markets and labor market policies are finally discussed.

Hours per Week / Semester: 2 / summer	**Teaching Method:** Seminar
Credits: 6	**Examination:** Presentation and essay (in English, German, Italian or French)

Economic aspects of the European societies (work, management, innovations, globalization....)
For example, a course on national patterns of work and management can be chosen. The hypothesis of this course is that the Europeanization and globalization of the economy does not lead to the disappearance of national and regional patterns of organization and work. This hypothesis will be supported by an overview of cross-national organizational research studies.

Hours per Week / Semester:	**Teaching Method:**
2/ winter	Seminar
Credits:	**Examination:**
6	Presentation and essay (in English, German, Italian or French)

Socio-cultural aspects of European societies (European identities, population, migration, household, family and social structures)
Under this topic, different courses on different aspects of European societies will be proposed – for example a course on European identities. The central issue of this course is the question what Europe is. Traditionally, Europe is either defined by geographical boundaries, by a common occidental or Christian heritage or as the origin of industrialization and modernity. These answers are not a convincing basis for a European identity, because Europe has no clear-cut boundaries, it never has been a homogeneous socio-political area, and the historical European patterns of capitalism, constitutionalism, rationalisation and individualism (G. Therborn; W. Outhwaite) have been globalised. There are three alternatives to develop a sociological concept of Europe: At first, Europe can be identified with the European Union; then the development of a new supranational power and governance structure has to be analysed. Secondly, the common institutional patterns of European countries can be analysed, for example the common patterns of industrialisation, trade unions, welfare-state policies, and class politics. Thirdly, the construction of a European identity can be understood as a political and socio-cultural challenge – a challenge that has to be resolved on the basis of common experiences, institutions, values and problems. In the seminar, these different answers to the question what Europe is will be discussed.

Hours per Week / Semester:	**Teaching Method:**
2/ summer	Seminar
Credits:	**Examination:**
6	Presentation and essay (in English, German, Italian or French)

3.7.4 Methodology

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Note:

- Foreign visiting students can participate in all courses as long as they fulfill the course prerequisites. It does not matter if you have acquired the necessary knowledge in courses at Bamberg University, in courses at another university, or by teaching yourself.
- Most courses are held in German (see below). For these courses, a basic requirement is that you are able to understand spoken German. The primary course material is in German, too. Therefore you should also be able to read German. However, the Bamberg University Library has many English books on social research and statistics. You can use these books as secondary material. The department's teachers will help you if you have difficulties understanding the course material or finding the right books.
- You may hand in written work in German or English (exception: „Introduction to Social Research," which must be in German). The department's teachers can speak German, English and Italian.
- You can find more detailed information on our courses on our homepage. If you have further questions, please contact us.

Basic Studies (1st or 2nd year)

Introduction to Social Research
Requirements for Participation: None.

Topics: Social scientists try to understand behavior of human beings in groups. Social Research aims at getting and interpreting valid information to further social theory. The introductory course covers the following topics:
- Epistemology
- Methods of Data Collection (Surveys, Interviews, Observation, Content Analysis)
- Sampling
- Basic Statistical Methods
- Attitude Measurement
- Casual Analysis
- Research Design

Hours per Week / Semester: (1-year-course) 2 / winter 2 / summer The course starts in winter.	**Teaching Method:** Lecture
Credits: 12	**Examination:** Examination – 2 hours written exam at the end of summer. – Foreign students get an extra half hour writing time and are allowed to use a dictionary.

If you are interested in this course, please contact Gerhard Schulze.

Intermediate Studies (2nd, 3rd or 4th year)

Social Research Project

Requirements for Participation:

- Basic knowledge in Methods of Social Research (You can acquire this knowledge for example by participating in the lecture „Introduction to Social Research“ the year before.)
- Basic knowledge in Statistics (You can acquire this knowledge for example by participating in the lecture „Statistics I“ the semester before and in the lecture „Statistics II“ the same semester as participating in the research project.)
- Basic knowledge in SPSS (You can acquire this knowledge for example by participating in the course „Introduction to SPSS for Windows“ the year before.)
- Basic knowledge in Sociology (2nd year Sociology or other Social Sciences)
- The course starts in winter. You have to make the first preparations during the summer.

Topics: Students participate in an empirical research project. The project includes all necessary steps from designing an empirical study to writing a final report. The course consists of the following units:

In Winter:

- Project Seminar
- Data Analysis Seminar (“Intermediate Multivariate Data Analysis”)
  (Analysis of Contingency Tables, Regression Analysis, Factor Analysis with SPSS for Windows)

In Summer:

- Project Seminar (continued)

Hours per Week / Semester: (1-year-course) 14 / winter 12 / summer The course starts in winter.	**Teaching Methods:** Varying
Credits: 60	**Examination:** – Exams during the course – Special tasks in the course of the research project – Writing the final report Students may write in German or English.

If you are interested in this course, please contact Gerhard Schulze.

Advanced Studies (3rd or 4th year)

Epistemology and Philosophy of Science
Requirements for Participation: Basic Knowledge in Methods of Social Research

Topics (may change slightly):
Scientists have to discuss, criticize and analyze every day. When doing this, we take a lot of things for granted that actually aren't that obvious at all: Reality does not speak for itself. The course's goal is therefore to teach and train the ability to reflect about scientific research. This is very difficult because there is no *one* way to do research correctly. On the contrary, there are always several ways to do good research. During the course, students learn to reflect on the way they choose to do research and the weaknesses of each particular choice.

Hours per Week / Semester: 2 / every 2nd winter (next course: winter 2004 / 2005)	**Teaching Method:** Seminar
Credits: 8	**Examination:** – Students get special exercises every week. – Students may write in German or English.

If you are interested in this course, please contact Gerhard Schulze.

Sociology of Social Research
Requirements for Participation: Basic Knowledge in Methods of Social Research

Topics (may change slightly):
One of the central ideas of modern science is that people can free themselves from the power nature and society has over them if they know more about themselves, nature and society. Thus knowledge is very important. Knowledge produced by social scientists is used by others, e.g. politicians, the media, companies, and ordinary people, to organize lives, policy, and productivity. However, during the research process and later on, knowledge often becomes distorted. This course has three major topics:

- Dynamics of Social Research: Modern science is a never-ending process. Each point in the history of science is only a stage before the next stage. Scientists always use the knowledge produced by their predecessors and build on it. But is this good knowledge or is it sometimes better to do things completely differently? And how are we supposed to handle all this information?
- Social Forms of Producing Knowledge: What social forms of producing scientific knowledge do exist? How do these institutions distort the production of scientific knowledge?
- Transferring Scientific Knowledge to Practicians: Scientific knowledge does not have a use in itself - its final goal is always to help non-scientists to organize life in a better way than before. How is scientific knowledge distorted when used in „real life"? What effects does it have on every day life? What does this mean for social science as a profession?

Hours per Week / Semester: 2 / every 2nd summer (next course: summer 2005)	**Teaching Method:** Seminar
Credits: 8	**Examination:** – Students get special exercises every week. – Students may write in German or English.

If you are interested in this course, please contact Gerhard Schulze.

Research Data and Social Theory I
Requirements for Participation: Basic Knowledge in Methods of Social Research

Topics (may change slightly): What do we have to consider when we use research data for theory building? What mistakes can be made? In order to answer these questions, the course addresses the following topics:
- What data do social scientist need for theory building?
- Time and social phenomena
- Collective thinking and acting
- Blurred social phenomena
- Building theories about collectives
- The relationship between analysis and knowledge before analysis
- Interpreting data
- Interpreting data and time
- Causal interpretation and time
- Measuring data

Hours per Week / Semester: 2 / every 2nd winter (next course: winter 2003°/ 2004)	**Teaching Method:** Seminar
Credits: 8	**Examination:** – Students get special exercises every week. – Students may write in German or English.

If you are interested in this course, please contact Gerhard Schulze.

Research Data and Social Theory II
Requirements for Participation: Basic Knowledge in Methods of Social Research

Topics (may change slightly): What do we have to consider when we use research data for theory building? What mistakes can be made? In order to answer these questions, the course addresses the following topics:
- Problems of different methods of data collection (standardized interviews, grounded theory)
- Sampling Problems
- Analyzing standardized data
- Scaling
- Time and social research

Hours per Week / Semester: 2 / every 2nd summer (next course: summer 2003)	**Teaching Method:** Seminar
Credits: 8	**Examination:** – Students get special exercises every week. – Students may write in German or English.

If you are interested in this course, please contact Gerhard Schulze.

Advanced Data Analysis I (Multivariate Data Analysis)

Requirements for Participation:

- Basic Knowledge in Methods of Social Research
- Basic Knowledge in Statistics (You can acquire this knowledge for example by participating in the lectures „Statistics I“ and „Statistics II“ the year before.)
- Intermediate Knowledge in Multivariate Data Analysis with SPSS for Windows (You can acquire this knowledge for example by participating in the course „Intermediate Multivariate Data Analysis“ the year before.)

Topics (may change slightly):

The course consists of two Modules. In Module A (2 hours per week), participants acquire knowledge in different multivariate methods. They also practice this knowledge using real data. The following methods are taught:

- Analysis of Contingency Tables
- Correlation Analysis
- Factor Analysis
- Multiple Regression Analysis
- Correspondence Analysis
- Discriminance Analysis
- Tree Analysis
- Analysis of Variance
- Cluster Analysis

In Module B (1 hour per week), a group of about ten students conducts a small research project. We will decide on the research topic the semester before. Students will build their own data base and analyze it, using the methods acquired in Module A.

Hours per Week / Semester: 3 / every 3rd summer (next course: summer 2006)	**Teaching Method:** Seminar
Credits: 12	**Examination:** – Students get special exercises every week. – Students may write in German or English.

If you are interested in this course, please contact Gerhard Schulze.

Advanced Data Analysis II (Analysis of Change)
Requirements for Participation:
- Basic Knowledge in Methods of Social Research
- Basic Knowledge in Statistics (You can acquire this knowledge for example by participating in the lectures „Statistics I“ and „Statistics II“ the year before.)
- Intermediate Knowledge in Multivariate Data Analysis with SPSS for Windows (You can acquire this knowledge for example by participating in the course „Intermediate Multivariate Data Analysis“ the year before.)

Topics (may change slightly):
The course consists of two Modules. In Module A (2 hours per week), participants acquire knowledge in different quantitative methods for analyzing change. They also practice this knowledge using real data. The following methods are taught:
- Time-related Research Designs in Comparison
- Cohort Analysis
- Time Series Analysis
- Event History Analysis

In Module B (1 hour per week), a group of about ten students conducts a small research project. We will decide on the research topic the semester before. Students will build their own data base and analyze it, using the methods acquired in Module A.

Hours per Week / Semester: 3 / every 3rd summer (next course: summer 2005)	**Teaching Method:** Seminar
Credits: 12	**Examination:** – Students get special exercises every week. – Students may write in German or English.

If you are interested in this course, please contact Gerhard Schulze.

Advanced Data Analysis III (Qualitative Data Analysis)
Requirements for Participation:
- Basic Knowledge in Methods of Social Research
- Basic Knowledge in Sociology
- Probably this course will be integrated in a course on economic sociology taught by Christian Lahusen. This will be decided in winter 2003 / 2004. If the course is integrated, you have to participate in both courses.

Topics (may change slightly):
The participants will conduct a qualitative research project. They will learn methods of qualitative data analysis. They will also be introduced to the QDA-software MAXqda.

Hours per Week / Semester: 2 / every 3rd summer (next course: summer 2004)	**Teaching Method:** Seminar
Credits: 12	**Examination:** – Students get special exercises every week. – Students may write in German or English.

If you are interested in this course, please contact Gerhard Schulze.

Collecting Life Course Data

Requirements for Participation:

- Basic Knowledge in Methods of Social Research
- Basic Knowledge in Statistics (You can acquire this knowledge for example by participating in the lectures „Statistics I“ and „Statistics II“ the year before.)
- Intermediate Knowledge in Multivariate Data Analysis (You can acquire this knowledge for example by participating in the course „Intermediate Multivariate Data Analysis“ the year before.)

Topics (may change slightly):

The course consists of two modules: In module A (lecture), the basic approaches for collecting life course data are presented and discussed. In module B (exercise), students work on a specific research topic and learn how to construct and test a retrospective questionnaire to collect life course data.

Hours per Week / Semester: 4 / every 3rd summer (next course: To be announced)	**Teaching Method:** Seminar
Credits: 12	**Examination:** – Students get special exercises every week. – Students may write in German or English.

If you are interested in this course, please contact Hans-Peter Blossfeld.

Event History Analysis I: Continuous Time Models

Requirements for Participation:

- Basic Knowledge in Methods of Social Research
- Basic Knowledge in Statistics (You can acquire this knowledge for example by participating in the lectures „Statistics I“ and „Statistics II“ the year before.)
- Intermediate Knowledge in Multivariate Data Analysis (You can acquire this knowledge for example by participating in the course „Intermediate Multivariate Data Analysis“ the year before.)

Topics (may change slightly):

The course consists of two modules: In module A (lecture), event history techniques for continuous time are presented and discussed. Topics include time and causality, basic concepts of event history analysis with continous time, non-parametric estimation procedures and parametric transition rate models. In module B (exercise), students work with concrete research examples to deepen their understanding of the statistical techniques.

Hours per Week / Semester: 4 / every winter (next course: To be announced)	**Teaching Method:** Seminar
Credits: 12	**Examination:** – Students get special exercises every week. – Students may write in German or English.

If you are interested in this course, please contact Hans-Peter Blossfeld.

Event History Analysis II: Discrete Time Models

Requirements for Participation:

- Basic Knowledge in Methods of Social Research
- Basic Knowledge in Statistics (You can acquire this knowledge for example by participating in the lectures „Statistics I“ and „Statistics II“ the year before.)
- Intermediate Knowledge in Multivariate Data Analysis (You can acquire this knowledge for example by participating in the course „Intermediate Multivariate Data Analysis“ the year before.)
- Basic Knowledge in Event History Analysis (You can acquire this knowledge for example by participating in the course „Event History Analysis I“ the semester before.)

Topics (may change slightly):

The course consists of two modules: In module A (lecture), event history techniques for discrete time are presented and discussed. Topics include logistic regression techniques for event history analysis and problems of model specification and testing. In module B (exercise), students work with concrete research examples to deepen their understanding of the statistical techniques.

Hours per Week / Semester: 4 / every 3rd summer (next course: to be announced)	**Teaching Method:** Seminar
Credits: 12	**Examination:** – Students get special exercises every week. – Students may write in German or English.

If you are interested in this course, please contact Hans-Peter Blossfeld.

Secondary Analysis of Longitudinal Data

Requirements for Participation:

- Basic Knowledge in Methods of Social Research
- Basic Knowledge in Statistics (You can acquire this knowledge for example by participating in the lectures „Statistics I“ and „Statistics II“ the year before.)
- Intermediate Knowledge in Multivariate Data Analysis (You can acquire this knowledge for example by participating in the course „Intermediate Multivariate Data Analysis“ the year before.)
- Basic Knowledge in Event History Analysis (You can acquire this knowledge for example by participating in the course „Event History Analysis I“ the semester before.)

Topics (may change slightly):

The course covers all problems of event history analysis including formulating research questions, finding appropriate data, preparing data for analysis, specifying statistical models, and interpreting results.

Hours per Week / Semester: 2 / every 3rd summer (next course: to be announced)	**Teaching Method:** Seminar
Credits: 12	**Examination:** – Students get special exercises every week. – Students may write in German or English.

If you are interested in this course, please contact Hans-Peter Blossfeld.

3.8 Module Descriptions: Political Science

3.8.1 Comparative Politics

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Basic Studies (1st and 2nd year)

Introduction to Comparative Politics
Democratic political systems: constitutions, executives, legislatures, parliamentary vs. presidential systems, federalism, political parties and party systems

Hours per Week / Semester: 2 / winter	**Teaching Method:** Lecture Course
Credits: 4	**Examination**: Written final exam

Electoral Systems

Hours per Week / Semester: 2 / winter	**Teaching Method:** Introductory seminar
Credits: 5	**Examination**: Oral presentation and written final exam

Government and Politics of Germany
Introductory course on parliamentary democracy in Germany: Basic Law, interest groups and political parties, Federal Government and Federal Diet, Federal Constitutional Court, federal system, political culture

Hours per Week / Semester: 2 / summer	**Teaching Method:** Introductory seminar
Credits: 5	**Examination**: Oral presentation and written final exam

Undergraduate Seminar in Comparative Politics
Democratic political systems, political parties, political system of the USA, political system of Great Britain

Hours per Week / Semester: 2 /each semester	**Teaching Method:** Undergraduate seminar
Credits: 6	**Examination**: Term paper and oral presentation plus written final exam

Advanced Studies (3rd and 4th year)

Topics in Comparative Politics

Hours per Week / Semester: 2 / summer	**Teaching Method:** Lecture course (advanced level BA)
Credits: 5	**Examination**: Essay and written final exam

Theoretical and Methodological Problems in Comparative Political Analysis: The Empirical Study of Democracy

Hours per Week / Semester: 2 / winter and summer	**Teaching Method:** Seminar (advanced level BA)
Credits: 6	**Examination**: Essay and oral presentation plus written final exam

The Comparative Study of Political Institutions
Seminar on selected topics: parliamentary and presidential systems, federalism, electoral systems and governments, government and politics of specific countries, e.g. USA, Italy, Switzerland

Hours per Week / Semester: 2 / winter and summer	**Teaching Method:** Graduate seminar
Credits: 8	**Examination**: Term paper and oral presentation plus essay

Political Parties and Interest Intermediation
Varying topics, e.g. political parties, interest groups, elites, democratization, direct democracy

Hours per Week / Semester: 2 / winter and summer	**Teaching Method:** Graduate seminar
Credits: 8	**Examination**: Term paper and oral presentation plus written final exam

3.8.2 International and European Politics

Prof. Dr. Thomas Gehring
Professor of Political Science, International and European Politics
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Internet: http://www. uni-bamberg.de/ipo

Basic Studies (1st and 2nd year)

Introduction to International and European Politics
International regimes and organizations, opportunities for, and limits of, cooperation; European Union and concepts of European integration; foreign policy analysis and introduction into German foreign policy.

Hours per Week / Semester: 2/winter	**Teaching Method:** Lecture
Credits: 5	**Examination:** 2 hour written examination

Introductory Seminar to International and European Politics
This seminar complements the Introductory lecture to International and European Politics and addresses similar issues. In addition, it introduces into research methods of International Relations. Participants must attend the lecture.

Hours per Week / Semester: 2/ winter and summer	**Teaching Method:** Seminar ('Übung/Proseminar')
Credits: 4/6	**Examination:** Oral presentation and essay

Introductory Seminar to International Institutions
Empirical analysis of the purpose and institutional design of a number of important international governance institutions in the areas of economic, security, environment and human rights (e.g. GATT/WTO, UN-System, Nato).

Hours per Week / Semester: 2/ winter and summer	**Teaching Method:** Seminar ('Proseminar')
Credits: 4/6	**Examination:** Oral presentation and essay)

Introductory Seminar to Foreign Policy Analysis
Empirical analysis of the causes and consequences of foreign policy decisions with particular focus on German foreign policy. Occasionally the empirical focus is on the foreign policy of other countries.

Hours per Week / Semester: 2/ winter and summer)	**Teaching Method:** Seminar ('Proseminar')
Credits: 4/6	**Examination:** Oral presentation and essay

Introductory Seminar to European Integration
The course focuses on important steps of European integration (e.g. Rome treaties, Maastricht, Amsterdam), on the decision-making apparatus of the European Union (Commission, Parliament, Council, Court of Justice), as well as on the institutional structure of the Union (three pillar system).

Hours per Week / Semester:	**Teaching Method:**
2/ winter and summer)	Seminar ('Proseminar')
Credits:	**Examination:**
4/6	Oral presentation and essay

Advanced Studies (3rd and 4th year)

Cooperation and International Institutions
This theory-based cycle of lectures addresses problems of international cooperation and international governance institutions: opportunities for international cooperation; functions of international institutions; decision-making in international regimes and organizations; role of non-state and sub-state actors; the importance of institutional design; interaction between international institutions.

Hours per Week / Semester:	**Teaching Method:**
2	Lecture
Credits:	**Examination:**
5	2 hour written examination

Selected Issues of International Relations
This seminar addresses every year a different issue of international relations that may be related to the lectures on cooperation and international institutions, e.g. juridification of, or governance in, international relations.

Hours per Week / Semester:	**Teaching Method:**
2/	Seminar
Credits:	**Examination:**
8	Oral presentation and essay

The Political System of the European Union
This lecture focuses on the policies of the European Union and their distinct 'logics' of integration and decision-making, e.g. single market policy, currency policy, foreign policy.

Hours per Week / Semester:	**Teaching Method:**
2/	Lecture
Credits:	**Examination:**
5	Two hour written examination

Issues on European Integration
The seminar focuses on selected issues of European integration, e.g. integration after Nice, European charter of human rights.

Hours per Week / Semester:	**Teaching Method:**
2/	Seminar
Credits:	**Examination:**
8	Oral presentation and essay

Foreign Policy Analysis
Seminar themes are: theoretical and conceptual issues of foreign policy analysis, German foreign policy, foreign policy of other states, the foreign and security policy of the European Union.

Hours per Week / Semester:	**Teaching Method:**
2/ summer	Seminar
Credits:	**Examination:**
8	Oral presentation and essay

3.8.3 Political Sociology

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Basic Studies (1st and 2nd year)

Introduction to Political Sociology
Political attitudes and political behavior, their origins and their interrelation; in the lecture the most important theoretical approaches are taught with a focus on the micro level (political attitudes and political behavior of individuals).

Hours per Week / Semester: 2 / summer	**Teaching Method:** Lecture
Credits: 4	**Examination**: 2 hour written test

Introductory Seminar in Political Sociology
Each semester one aspect of Political Sociology (e.g. Political Socialization, Political Participation, Political Culture, Voting Behavior) is covered; required readings are the basis for the discussion of the central theoretical issues and methodological questions in the selected field.

Hours per Week / Semester: 2 / winter and summer	**Teaching Method:** Seminar
Credits: 6	**Examination**: Term paper and written test

Methods of Political Sociology
Introduction to the empirical analysis of Political Sociology research problems and data sets with the SPSS for Windows package. A mandatory two-hour SPSS-tutorial is part of this course

Hours per Week / Semester: 2+2 / winter and summer	**Teaching Method:** Seminar with practical computer applications
Credits: 5	**Examination**: Oral presentation and written test

Intermediate Studies (3rd year)

Advanced BA-Seminar on Political Attitudes and Behavior
A seminar for students having completed basic training in Political Sociology, Statistics, Methodology, and the SPSS program package that is centered around an empirical research project involving research design, data collection, and data analysis.

Hours per Week / Semester: 2 / winter or summer	**Teaching Method:** Seminar with practical computer applications
Credits: 8	**Examination**: To be defined by the instructor

Advanced Studies (4th and 5th year)

Political Attitudes and Political Behavior I & II
A two-semester lecture introducing advanced topics of the political science analysis of political attitudes and political behavior at the micro and macro level.

Hours per Week / Semester: 2 each / winter (alternating I & II)	**Teaching Method:** Lecture
Credits: 5 each for I & II	**Examination**: 20 minute oral examination or 2 hour written test for each of the two lectures (I & II)

Political Attitudes
Special topics of research about political attitudes; theoretical foundation and applications with empirical data analysis on the PC; varying examples of application.

Hours per Week / Semester: 4 / summer	**Teaching Method:** Seminar with practical computer applications
Credits: 12	**Examination**: Term paper and several presentations in class

Political Behavior
Special topics of research about political behavior; theoretical foundation and applications with empirical data analysis on the PC; varying examples (with concentration on voting behavior in Germany as well as in a comparative perspective).

Hours per Week / Semester: 4 / winter	**Teaching Method:** Seminar with practical computer applications
Credits: 12	**Examination**: Term paper and several presentations in class

3.8.4 Political Theory

Prof. Dr. Reinhard Zintl
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Basic Studies (1st and 2nd year)

Introduction to Political Theory
Concepts of politics; basic epistemological and methodological problems; normative, positive and practical theory; ideas of the common good and the legitimation of political power; the limits of legitimate state action; problems of collective action and social choice.

Hours per Week / Semester:	**Teaching Method:**
2 / summer	Lecture
Credits:	**Examination:**
5	Written Test

Introductory Seminar in the History of Ideas

Hours per Week / Semester:	**Teaching Method:**
2 / winter and summer	Seminar
Credits:	**Examination:**
4 6	Written Test Oral Presentation and Written Test

Introductory Seminar on modern political theory, in particular on game theory and decision theory.

Hours per Week / Semester:	**Teaching Method:**
2 / winter and summer	Seminar
Credits:	**Examination:**
4 6	Written Test Oral Presentation and Written Test

Advanced Studies (3rd and 4th year)

Selected Topics of Political Theory
A cycle of lectures : theory of democracy; theories of justice; theories of political institutions and processes

Hours per Week / Semester: 2 / winter	**Teaching Method:** Lecture
Credits: 5	**Examination:** Written Test

Theories of collective choice
Social Choice, Welfare Theory, normative theories of state action

Hours per Week / Semester: 2 / winter and summer	**Teaching Method:** Seminar
Credits: 8	**Examination:** Term paper and presentation

Political Institutions
Rational choice and institutionalism; constitutional political economy, evolution and design of institutions, theory of democratic and autocratic regimes, neoclassical theory of the state.

Hours per Week / Semester: 2 / winter and summer	**Teaching Method:** Seminar
Credits: 8	**Examination:** Term Paper and presentation

Political Philosophy
Political power and justice; freedom and law; social contract; discussion of selected writings (esp. of Hobbes, Harrington, Locke, Smith, Rousseau, Kant, Federalist Papers, Tocqueville, Hayek, Buchanan, Rawls, Nozick, Gauthier)

Hours per Week / Semester: 2 / winter and summer	**Teaching Method:** Seminar
Credits: 8	**Examination:** Term Paper and presentation

3.9 Module Description: Public Administration

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General Status: Public Administration is an elective subject in all degree courses of the faculty. Despite its interdisciplinary nature, the closest affinity is with the sociology and political science courses. Students of economics are advised to attend lectures, if they aim at jobs whose working environment is the public sector. Furthermore, there are cross-fertilizations in the subfields of organization theory, planning and budgeting.

All public administration courses are held annually. 3 courses (6 hours) are given for undergraduates, 6 courses for advanced students who passed the intermediate examination. Students not familiar with public administration are advised to inscribe in Introduction to Public Administration (winter term).
For the contents of the courses, see homepage.

Basic Studies (1st and 2nd year)

Introduction to Public Administration

Hours per Week / Semester: 2 / every winter semester	**Teaching Method:** Lecture
Credits: 6	**Examination:** *0ral exam (30 minutes)*

Special Aspects of Public Administration

Hours per Week / Semester: 2 / each semester	**Teaching Method:** Seminars
Credits: 6	**Examination:** *Essay and presentation*

Advanced Studies (3rd and 4th year)

Organization Theory I

Hours per Week / Semester: 2 / every winter semester	**Teaching Method:** Lecture
Credits: 4	**Examination:** *oral examination*

Organization Theory II

Hours per Week / Semester: 2 / every summer semester	**Teaching Method:** Lecture
Credits: 4	**Examination:** *oral examination*

Policy Analysis

Hours per Week / Semester: 2 / every winter semester	**Teaching Method:** Seminar
Credits: 8	**Examination:** *Essay and presentation*

Public Management

Hours per Week / Semester: 2 / every winter semester	**Teaching Method:** Seminar
Credits: 8	**Examination:** *Essay and presentation*

Ministerial Bureaucracy

Hours per Week / Semester: 2 / every summer semester	**Teaching Method:** Seminar
Credits: 8	**Examination:** *Essay and presentation*

Selected Aspects of Public Administration

Hours per Week / Semester: 3 / every summer semester	**Teaching Method:** Seminar
Credits: 8	**Examination:** *Essay and presentation*

4 MODULE DESCRIPTIONS: FACULTY OF INFORMATION SYSTEMS AND APPLIED COMPUTER SCIENCES

4.1 Industrial Application Systems

4.2 Industrial Application Systems

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Basic Studies (1st and 2nd year)

Development and Operation of Application Systems

Application systems are actors of automated business tasks. Depending on their fields of application they occur in different forms and specifications. The module provides architectural features of application systems as well as methodologies for the development and operation of these systems. The architectural features cover the integration of applications and its distribution on appropriate resources. We will describe the methodologies on the basis of a project model with the partial models 'system engineering', 'project management', 'quality assurance' and 'configuration management'. We will present suitable software development environments for the implementation of the project model. In the accompanying tutorial you will learn to develop sample application systems and you will get to know components of software development environments.

Hours per Week / Semester:	**Teaching Method:**
4 / summer	Lecture and Tutorial
Credits:	**Examination:**
8	90 minute written examination

Electronic Business

The module covers different architectures of industrial and service enterprises. Main areas are the objectives and strategies of enterprises, their business processes, and the supporting application systems. We treat Enterprise Resource Planning Systems and Management Support Systems within enterprises. The relationships among enterprises and between enterprises and private households are the subject of Electronic Commerce Systems.

Hours per Week / Semester:	**Teaching Method:**
4 / winter	Lecture and Tutorial
Credits:	**Examination:**
8	90 minute written examination

Advanced Studies (3rd and 4th year)

Enterprise Resource Planning Systems

The module consists of three main parts. The first part, production and operations management, deals with the design of industrial enterprises, especially with models of computerized manufacturing systems and material flow systems as well as concepts for control of such systems (CAx). The second part covers the two topics application systems in general and modeling of business processes and application systems serving as a basis for the next part which deals with the control of industrial enterprises. We take a close look at the functions production planning and control, materials management, maintenance and sales & distribution as well as the supporting applications systems. In the accompanying tutorial in addition we present selected simulation processes as well as methods for production planning and control. An ERP-system is used for practical application.

Hours per Week / Semester: 4 / winter	**Teaching Method:** Lecture and Tutorial
Credits: 8	**Examination:** 90 minute written examination

Electronic Commerce Systems

This module focuses on business models in electronic commerce and inter-organizational business processes. Especially the concepts of Supply Chain Management and Customer Relationship Management are covered in detail. ,Electronic commerce services, the economy of the internet as well as architectures of application systems and IT-technologies within these functional areas are further topics.

Hours per Week / Semester: 4 / summer	**Teaching Method:** Lecture and Tutorial
Credits: 8	**Examination:** 90 minute written examination

Management Support Systems

Management Support Systems (MUS) in general are used to support decision making in various problem fields. The module deals especially with the analysis of complex and weak structured problems and the investigation of the support of decision processes by application systems (e. g. Business Intelligence Systems). The tutorial provides the simulation of decision situations through several scenarios using models in combination with commercially available management support systems.

Hours per Week / Semester: 4 / winter	**Teaching Method:** Lecture and Tutorial
Credits: 8	**Examination:** 90 minutes written examination

Seminar

The seminar in Industrial Application Systems is a combination of three kinds of academic work: homework, presentation, and discussion. The topics of the seminar cover the entire range of information systems especially industrial application systems. The different topics of the seminar are published at the beginning of the semester.

Hours per Week / Semester: 2 / summer	**Teaching Method:** Seminar
Credits: 6	**Examination:** Essay (25 pages), presentation, continuous assessment

Information and Knowledge Management

Business information systems can be interpreted as the nervous system of an enterprise in analogy to the nervous system of an organism. The information management of an enterprise has the function to specify, to build and to operate the business information system according to the business objectives. Knowledge management completes the information management in management of human knowledge and the computer supported representation and processing of knowledge. This module deals with tasks and methods of information management as well as knowledge management and derives necessary characteristics of the appropriate resources from them.

Hours per Week / Semester: 4 / summer	**Teaching Method:** Lecture and Tutorial
Credits: 8	**Examination:** 90 minutes written examination

4.3 Media Informatics

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General Information: All exams (basic and advanced) may be taken in English. Lectures and tutorials are offered in German.

Basic Studies (1st and 2nd year)

Multimedia Technology
This course deals with media and media formats. Among that are XML for structured text, SVG and VRML for 2D- and 3D-graphics and animation, JPEG, GIF and, TIFF for images, PCM, MP3, MIDI for audio, as well as MPEG for video. Besides the formats the corresponding fundamentals are examined, like colour- and perception-models, aspects of quality-of-service and engineering-like development of multimedia systems. The intention is to teach practical skills with the mentioned formats and with the development of concepts for coding- and compression-techniques. For this, the course, which generally wants to give a broad overview of the domain, looks at selected topics in more detail. Examples for this are VRML, JPEG and MP3.

Hours per Week / Semester:	**Teaching Method:**
4 / winter	Lectures and Tutorials
Credits:	**Examination:**
6	90 minute written examination

Advanced Studies (3rd and 4th year)

Information Retrieval 1
Information Retrieval (IR) addresses the search for documents. Traditionally these are textual documents. Today the search for multimedia documents, e.g. images, audio, video as well as hypertext documents is getting more and more important. Furthermore with the proliferation of the World Wide Web Information Retrieval gains even more prominence and actuality.

Within this course we cover essential information retrieval models and algorithms as well as the evaluation of information retrieval systems:

- Motivation and Introduction
- Evaluation of IR Systems
- Considering the Vagueness of Natural Languages
- Pattern Matching within Text – Simple Models and Algorithms

- Simple IR Models and their Implementation (Boolean Retrieval, Coordination Level Match, …)
- Vector Space Model
- Formats for Structured Documents and Knowledge Representation
- Alternatives to Searching – Classification, Clustering and Browsing
- Multimedia Information Retrieval

Prerequisites: Multimedia Technology, Programming skills (in particular, object-oriented)

Hours per Week / Semester: 4 / winter	**Teaching Method:** Lectures and Tutorials
Credits: 6	**Examination:** 90 minute written examination

Information Retrieval 2

Within this course we build upon the fundamentals addressed within Information Retrieval 1. We consider advanced information retrieval models as well as advanced algorithms and data structures used for searching images and structured documents. Furthermore we focus on commercial data base systems and their support for information retrieval. Finally we address internet search engines. The topics are:

- Advanced Concepts for the Evaluation of Information Retrieval Systems
- Pattern Matching within Text – Advanced Models and Algorithms
- Probabilistic Information Retrieval
- Advanced Information Retrieval Models – LSI, Bayesian Networks, …
- Multimedia Information Retrieval – Index Structures and Search Algorithms
- Support for Information Retrieval within Commercial Data Base Systems
- Information Retrieval and the Internet – Fundamentals and Architecture of Search Engines
- Information Retrieval and the Internet – Stating Queries and Query Processing

Prerequisites: Multimedia Technology, Information Retrieval 1, programming skills (in particular, object-oriented)

Hours per Week / Semester: 4 / summer	**Teaching Method:** Lectures and Tutorials
Credits: 6	**Examination:** 90 minute written examination

Web Engineering

Web-enabled applications provide ubiquitous access to information systems. In practice, ad-hoc approaches dominate the development process of web applications while software engineering methods as known from application development are lacking. The module Web Engineering gives a practical introduction into methods that may be applied to solve these difficulties. Web Engineering builds upon the conclusions of Software Engineering and covers the whole life-cycle of web applications.

The module addresses various activities of Web Engineering, including requirements engineering, modelling, architectural and design stages, implementation techniques, testing, operation, and maintenance.

We will present current concepts, methods, techniques, and tools for the different activities in Web Engineering. One of the key learning objectives is practical competencies in web application development which will be achieved in a Java-based development environment.

Prerequisites: Multimedia Technology, programming skills (in particular, object-oriented)

Hours per Week / Semester: 4 / summer	**Teaching Method:** Lectures and Tutorials
Credits: 6	**Examination:** 90 minute written examination

Computer Graphics and Animation

This course deals with all important aspects of three-dimensional computer graphics and covers the basic mathematic principles as well as the implementation in tools for animation development. That provides a basis for a specific use of these tools for creating animations and virtual worlds.

The topics of this course are similar to the standard work from Watt: basic mathematic principles of computer graphic, description and modelling of three-dimensional objects, display and rendering, the graphics-pipeline, reflection models, illumination, the radiosity method, ray tracing techniques, volume rendering, colours in computer graphics, image-based rendering and photo-modelling, computer animation.

Prerequisites: Multimedia Technology, programming skills (in particular, object-oriented)

Hours per Week / Semester: 4 / summer	**Teaching Method:** Lectures and Tutorials
Credits: 6	**Examination:** 90 minute written examination

Multimedia Systems and Applications
The first part of this module deals with basis systems of multimedia applications. Among others, media server, content management systems (CMS), and document management systems (DMS) are covered.
In the second part, we consider various aspects of practical multimedia applications, e.g. distance learning, groupware, virtual reality, computer games, ubiquitous computing, CAD, and video on demand. The module provides insight into the requirements and technical implementation in these areas. The tutorial presents exemplary applications for some of the areas covered in the module.

Prerequisites: Multimedia Technology, programming skills (in particular, object-oriented)

Hours per Week / Semester:	**Teaching Method:**
4 / winter	Lectures and Tutorials
Credits:	**Examination:**
6	90 minute written examination

Seminar Media Informatics
Seminars are offered irregularly on varying topics in Media Informatics, both in the winter and/or summer semesters. The seminars are usually advertised at the beginning of each semester.

Hours per Week / Semester:	**Teaching Method:**
2 / winter, summer	Seminar
Credits:	**Examination:**
3	Essay, presentation, continuous assessment

Research Projects in Media Informatics
Advanced students interested in pursuing a research project leading to a thesis at undergraduate (bachelor) or graduate (masters, doctoral) level are invited to contact the Media Informatics Group for proposals. Possible topics would typically fall within the fields of information retrieval or visualization. Some selected proposals can be found on the group's web pages. Depending on the candidate's preferences and background the project might focus more on theory or implementation.

4.4 Communication Systems and Computer Networks

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Advanced Studies (3rd and 4th year)

Data Communication

Introduction to communication networks, layered architectures, OSI protocol reference model, TCP/IP suite, digital transmission fundamentals, peer-to-peer protocols and data link layer, medium access control protocols, local area networks, ISDN.

Hours per Week / Semester:	**Teaching Method:**
4 / summer	Lectures (2) and Tutorials (2)
Credits:	**Examination**:
6	90 minute written examination

Multimedia-communication in high-speed networks

Fundamentals of data networking, evolution of communication services, multimedia communication and services (HTTP, Video-Streaming, H.323, VoIP), TCP/IP architecture, circuit- and packet-switched networking, network architecture of BISDN, ATM networks, traffic management, IP networks with QoS mechanisms (Diffserv, Intserv, MPLS).

Hours per Week / Semester:	**Teaching Method:**
4 / summer	Lectures (3) and Tutorials (1)
Credits:	**Examination:**
6	90 minute written examination

Mobile communication networks and mobile computing

Development of mobile networks and services, fundamentals of wireless tranmission, medium access control protocols, data link layer protocols, network layer protocols and mobility management, mobile IP, TCP in wireless environments, wireless local area networks (IEEE.802.11, Hiperlan), wide area mobile networks (GSM, GPRS, UMTS).

Hours per Week / Semester:	**Teaching Method:**
4 / winter	Lectures (3) and Tutorials (1)
Credits:	**Examination:**
6	90 minute written examination

Modelling and analysis of communication networks and distributed systems

Modeling of distributed systems, probability theory and statistics, stochastic processes: Poisson and renewal processes, Markov chains; numerical solution methods for Markov chains, elementary Markovian queueuíng models, loss networks, elementary queueing networks.

Hours per Week / Semester: 4 / winter	**Teaching Method:** Lectures (3) and Tutorials (1)
Credits: 6	**Examination:** 90 minute written examination

Seminar

Seminars are regularly offered on varying topics of computer networking. They comprise a combination of homework, presentation, and discussion. The upcoming topics of the seminars are announced at the end of the semester.

Hours per Week / Semester: 2 / winter or summer	**Teaching Method:** Seminar
Credits: 6	**Examination:** Essay, final presentation, continuous assessment

Advanced Laboratory

Advanced Laboratories are regularly offered on varying topics of computer networking. They comprise a combination of assignments, project tasks, presentations, and discussion. The upcoming topics of the laboratory are announced at the beginning of the semester.

Hours per Week / Semester: 4 / winter or summer	**Teaching Method:** Seminar
Credits: 6	**Examination:** Deliverables, presentations, continuous assessment, final oral examination

4.5 Foundations of Computer Science

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General Information: In all courses except seminars and research projects assessment is by written papers presented during the examination period at the end of each semester. Guest students who are staying only for one examination period (i.e. one semester) may contact the course lecturer for special arrangements on resit exams.

All exams (basic and advanced) may be taken in English. Lectures and tutorials may be offered in English, too, if required.

Basic Studies (1st and 2nd year)

Discrete Foundations

This module covers key elements in discrete mathematics (set theory, logic and algebra) relevant to Computer Science and Business Informatics. At the end of this course students should be able to perform elementary calculations in algebraic structures such as Boolean, functional and relational algebras; be familiar with basic combinatorial and logical principles (Russell Paradox, Pigeon-Hole Principle, counting, diagonalisation argument and the existence of uncountable sets) fixed-point theorems, application to games); know basic techniques such as formal power series for solving recurrence equations; be familiar with the concept of a formal system and formal calculus and have understood the fundamental difference between syntax and semantics, soundness and completeness; be able to formalize real-world concepts in propositional and predicate logic and have developed skills in reasoning using formal calculi for these logics; be able to apply elementary proof principles (proof by contraposition, proof by cases, natural and structural induction).

Hours per Week / Semester:	**Teaching Method:**
4 / winter	Lectures and Tutorials
Credits:	**Examination:**
6	60 minute written examination

Machines and Languages

This course addresses the questions "what is a computation?" and "what is an algorithm?" and explores the capabilities and limitations of computers and programming languages as well as the implication of these for a practical computer scientist. It introduces the basic concepts and methods that underlie the formal (mathematical) study of computing machines and formal languages. At the end of this course the students should be able to distinguish finite automata, pushdown automata, Turing machines, and know the difference between the deterministic and non-deterministic versions in each case; be able to distinguish regular, context-free, context-sensitive and general phrase structure grammars; understand the relations between language classes and machine classes; have developed elementary automata and Turing machine programming skills.

Hours per Week / Semester:	**Teaching Method:**
4 / summer	Lectures and Tutorials
Credits:	**Examination:**
6	60 minute written examination

Advanced Studies (3rd and 4th year)

Programming Language Semantics

The aim of this module is to provide a deeper understanding of programming languages, their semantics and applications. Currently, this course focuses on the operational semantics of functional and logical programming, and stresses the importance of the concept of types and type checking. At the end of this course students should be familiar with the computational principles behind functional and logical programming, as well as their relationship; be familiar with important language constructs and their semantics (e.g., expressions, local declarations, function and relational abstraction, recursion, lazy and eager evaluation, unification, backchaining); have an appreciation of the major techniques and underlying principles of the formal specification of semantics (axiomatic, denotational, operational) and extended skills in using structural operational rules; have understood the concept of inductive rule systems and their relevance to the specification of complex systems; have an appreciation of the close relationship between programming language types and specification, and the role of type checking as a formal verification method; be familiar with polymorphic Hindley-Milner style type systems.

Hours per Week / Semester:	**Teaching Method:**
4 / winter	Lectures and Tutorials
Credits:	**Examination:**
6	90 minute written examination

Logics in Computer Science

This advanced module aims to give a thorough introduction to a selection of logics with strong applications in Computer Science. Basic knowledge of classical propositional logic and predicate logic and associated calculi is assumed as a prerequisite. Among the logics covered are intuitionistic logic, modal and temporal logics for the analysis of distributed systems. Depending on the time available, the module also covers belief logics and other specialised logics for security protocols and distributed algorithms. The course focuses mainly on theoretical foundations (models and proofs) but also discusses applications and offers practical experience through the concrete experimentation with automatic and interactive verification tools.

Hours per Week / Semester:	**Teaching Method:**
4 / summer	Lectures and Tutorials
Credits:	**Examination:**
6	90 minute written examination

Theory of Distributed Systems

This advanced course gives an introduction to the algorithmic and semantic foundations in the programming of distributed systems and discusses state-of-the-art techniques in the formal modelling and validation of distributed systems. At the end of this course the students should be familiar with elementary algorithms, specifically for resource synchronization, mutual exclusion, leader election, Byzantine agreement, global time-keeping; be able to reason about and argue for the correctness of these algorithms; understand the elementary trade-offs governing the algorithms' time and communication complexities; have a clear appreciation of the intricacies arising from the task of solving global synchronisation problems by local (asynchronous) means of communication; know some of the central impossibility results; be familiar with different behavioural models for distributed systems of varying expressiveness, such as Petri Nets, Kripke structures, labelled transition systems, hybrid automata; understand the operational principles of modern (visual) programming languages for globally-synchronous and locally-asynchronous systems such as Statecharts or Esterel.

Hours per Week / Semester:	**Teaching Method:**
4 / summer	Lectures and Tutorials
Credits:	**Examination:**
6	90 minutes written examination

Information Security

Commercial as well as private and public businesses increasingly exploit the world wide web as an efficient and innovative communication platform. Since the web is openly accessible, widely distributed and largely uncontrolled (“best-effort” principle) the dangers of information security violation are real and bound to cause considerable headaches in the future. This course gives an introduction to the problem and surveys state-of-the-art cryptographic methods and standardised security mechanisms based on them that are designed to counter the risks and to establish secure communication through unsafe channels. It will be discussed how properties such as confidentiality, authentication, data integrity, anonymity, commitment can be achieved systematically through security protocols. At the end of this course students should be familiar with most important modern techniques for encryption and decryption; know some of the prominent historic ciphers; have acquired the necessary elementary background in number and coding theory; understand the difference between symmetric and asymmetric encryption; have understood the RSA cryptographic system and possible attacks on it; be familiar with mathematical technology such as one-way functions and hard-core predicates to amplify secrecy and to turn a cryptographic system such as RSA into practical use; be able to appreciate the difference between perfect information-theoretic secrecy and computational secrecy; be able to compute the information-theoretic secrecy of simple encryption systems; be familiar with BAN logic and able to perform logical analyses of elementary security protocols using BAN or one of its successors.

Hours per Week / Semester: 4 / winter	**Teaching Method:** Lectures and Tutorials
Credits: 6	**Examination:** 90 minutes written examination

Seminar

Seminars are offered irregularly on varying topics in Foundations of Computer Science, Advanced software Engineering and Formal Methods, both in the winter and/or summer semesters. The seminars are usually advertised at the beginning of each semester. Seminars will sometimes be held in English.

Hours per Week / Semester: 2 / winter, summer	**Teaching Method:** Seminar
Credits: 3	**Examination:** Essay, presentation, continuous assessment

Research Projects in Computer Science Theory

Advanced students interested in pursuing a research project leading to a thesis at undergraduate (bachelor) or graduate (masters, doctoral) level are invited to contact the Theory Group for proposals. Possible topics would typically fall within the theory and application of logics, type theory, process algebra and the semantics of visual programming languages. Some selected proposals can be found on the group’s web pages. Depending on the candidate’s preferences and background the project might focus on theory or implementation.

4.6 Applied Computer Science

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Semantic Information Processing
Computational methods and tools for semantic information processing with special focus on knowledge-based approaches. Topics covered include: problem solving by heuristic search, constraint solving, representation and reasoning with domain-specific knowledge, formal ontologies, machine learning and knowledge discovery, neural networks.

The design of intelligent agents and agent systems is adopted as unifying perspective for presenting the material. Examples from GIS applications or digital libraries illustrate how the methods from semantic information processing blend with more traditional approaches to software design. Programming exercises in Java complement the lecture.

Prerequisites: Introduction to computer science; Programming course

Hours per Week / Semester:	**Teaching Method:** Lecture and exercise Lessons
Credits: 6	**Examination:** Written final exam

Introduction to Computing for Students from the Humanities
First course in Computing Science not requiring previous experience with computers. Introduction into basic concepts: Information, data, knowledge; architecture of computer systems; principles of programming: control and data structures, software engineering process; computer applications: geographic information systems and digital libraries; theory of computing: fundamental limitations and how to cope with them in practice; future trends of computing: semantic information processing. Exercises include text problems and programming tasks.

Prerequisites: none

Hours per Week / Semester:	**Teaching Method:** Lecture and exercise Lessons
Credits: 6	**Examination:** Written final exam

Geographic Information Systems
This lecture introduces the concepts of geographic information processing. Topics covered include: representation of spatial objects, digital maps, acquisition of geographic data, visualization and analysis of spatial data, spatial indexing (e.g. R-trees), spatial query processing and spatial SQL.

Connections to semantic information processing especially arising from interoperability issues are pointed out. Possible fields of application for GIS are illustrated with special emphasis on current trends in mobile computing.

Prerequisites: Programming course, Algorithms and data structures

Hours per Week / Semester:	**Teaching Method:** Lecture and exercise Lessons
Credits: 6	**Examination:** Written final exam

4.7 Cognitive Systems

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General Information: All exams may be taken in English. Lecture slides are in English. Lectures and tutorials may be offered in English, too, if required.

Advanced Studies (3rd - 5th year)

Intelligent Agents (KogSys I)
In this course basic concepts of intelligent agents are introduced and relations to human information processing are discussed. Topics are problem solving and planning, inferences and learning, and multi-agent systems. In the practice part methods and techniques are applied and partially implemented in Prolog. The course language is German, some reading materials are in English.

Prerequisites: Basic programming knowledge (for solving the practicals), basic knowledge in algorithms (search algorithms) and logic.

Hours per Week / Semester:	**Teaching Method:**
4/winter	Lectures and tutorials, assignments
Credits:	**Examination:**
6	90 minutes written examination

Machine Learning (KogSys II)
In this course well-known symbolical, statistical, and neuronal approaches to machine learning are introduced and relations to human learning are discussed. In the practice part, some methods and techniques are applied and implemented in Java. The course language is German, some reading materials are in English.

Prerequisites: Successful participation in KogSys I as well as basic computer skills and programming in Java (for solving homework assignments).
Remark: KogSys I can be replaced by some other course where basic methods and approaches of artificial intelligence were introduced.

Hours per Week / Semester:	**Teaching Method:**
4/summer	Lectures and tutorials, assignments
Credits:	**Examination:**
6	90 minutes written examination

Human Computer Interaction (KogSys III)
In this course techniques for design, implementation, and evaluation of interactive computer systems are introduced in the context of different areas of application with special regard to characteristics of human information processing. Core topics are psychological concepts for the design of human-computer interfaces, selected cognitive architectures, and empirical methods for the evaluation of software systems. User modeling, user adaptivity, enduser programming, antropomorphic agents, and tutor systems are introduced as special topics.

Prerequisites: Successful participation KogSys I.
Remark: KogSys I can be replaced by some other course where basic methods and approaches of artificial intelligence were introduced.

Hours per Week / Semester:	**Teaching Method:**
4/summer	Lectures and tutorials, assignments
Credits:	**Examination:**
6	90 minutes written examination

Practical Cognitive Systems
In this course, design and analysis of cognitive systems are practiced in small teams. The topics are derived from current research work in the cognitive system group. A practice course is essential as preparation for thesis work. Participation involves: Acquainting oneself with a topic by searching and evaluating the relevant research papers, discuss the planned project work in context with the state of the art in the field and give an oral presentation; structure the work in form of a requirement specification; fulfilling the specified requirements by designing and/or implementing algorithms, performing theoretical analyses and/or an empirical evaluation of algorithms together with a written report (in form of a scientific paper) and an oral presentation of the results.

Hours per Week / Semester:	**Teaching Method:**
4/summer	Seminar, programming lab
Credits:	**Examination:**
6	written report and oral presentation

Seminar in Cognitive Systems
Seminars are offered irregularly on varying topics in Cognitive Systems both in the winter and/or summer semesters. The seminars are usually advertised at the beginning of each semester.

Hours per Week / Semester:	**Teaching Method:**
2 / winter, summer	Seminar
Credits:	**Examination:**
6	Essay, presentation, continuous assessment

4.8 Systems Engineering

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Basic Studies (1st and 2nd year)

Foundations of Business Information Systems

Comprehensive introduction to concepts, models, and techniques for the analysis and the design of business information systems. Subjects are systems theory, models of business systems, business functions, and modeling of business information systems. Part of the course is a tutorial on concepts and usage of application systems as well as the internet.

Hours per Week / Semester: 6 / winter	**Teaching Method:** Lecture and Tutorial
Credits: 8	**Examination**: 60 minute written examination

Advanced Studies (3rd and 4th year)

Modelling of Business Information Systems

Introduction to methodological concepts of business information systems modelling; investigation of classical and advanced approaches to information systems modelling (data modelling, data-flow modelling, business process modelling, object-oriented modelling).

Hours per Week / Semester: 4 / winter	**Teaching Method:** Lecture and Tutorial
Credits: 8	**Examination**: 90 minute written examination and *part* of final oral examination (20 minutes)

Systems Engineering

Systems engineering; software engineering of business application systems; generic architectural framework; domain-specific layer; software layer; layer of programming platforms; control of large systems engineering projects by means of process models; different kinds of process models and their applicability.

Hours per Week / Semester: 4 / summer	**Teaching Method:** Lecture and Tutorial
Credits: 8	**Examination:** 90 minute written examination and *part* of final oral examination (20 minutes)

Architectures of database management systems and database application systems

Database models; architecture of relational and object-oriented database management systems; transaction models and transaction processing in distributed systems; architectural concepts for improving the data independence of application systems.

Hours per Week / Semester: 4 / summer	**Teaching Method:** Lecture and Tutorial
Credits: 8	**Examination:** 90 minute written examination and *part* of final oral examination (20 minutes)

Advanced application systems for Data, Information, and Knowledge Processing

Data, information, and knowledge; data warehousing; multi-dimensional data model; architecture of data warehouse systems; data mining; knowledge-based application systems; knowledge representation, programming in prolog.

Hours per Week / Semester: 4 / summer	**Teaching Method:** Lecture and Tutorial
Credits: 8	**Examination:** 90 minute written examination and *part* of final oral examination (20 minutes)

Seminar

The seminar in Systems Engineering is a combination of three kinds of academic work: homework, presentation, and discussion. The topics of the seminar cover the entire range of systems engineering. The different topics of the seminar are published at the beginning of the semester.

Hours per Week / Semester: 2 / winter	**Teaching Method:** Seminar
Credits: 6	**Examination:** Essay (20 pages), presentation, continuous assessment

4.9 Practical Computer Science

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Basic Studies (1st and 2nd year)

Basics of Information Technology: Introduction to Computer Science

Objective: To provide students with a basic understanding of and overview about the principles of computer science with an emphasis on algorithmics, programming and software development in an imperative as well as a functional paradigm. Students should be able to apply basic abstraction and representation techniques and should know about the concepts of specification, implementation and correctness as well as syntax and semantics in the context of programming languages.
Contents: The course offers a first introduction in computer science from the programming perspective. The topics discussed include the correspondences between information representation, interpretation and manipulation, syntax and semantics, problem classes and instances, design of algorithms and their implementation via programs, declarative specification vs. algorithmic implementation, abstract data types (stack, queue, list, tree) and their underlying semantics, data abstraction and functional abstraction, stepwise refinement and simple re-use techniques, simple rule-based systems and their processes, Chomsky Typ2 and 3 grammars, finite automata and stack automata. Most of these topics are discussed in the context of the languages SCHEME and Java. Students are required to use the concepts discussed in designing and implementing small programs in both languages.
Literature:

1. Barbara Liskov with John Guttag: Program Development in Java. Addison-Wesley, 2001
2. J. Stanley Warford: Computing Fundamentals. Vieweg, 2002
3. Timothy Budd: An Introduction to Object-Oriented Programming, Pearson/Addison Wesley, 2002 (3rd)
4. Abelson, Sussman: Structure and Interpretation of Computer Programs. MIT Press 1984

Organization: The module is organized in combination with the course *Practical Introduction into Java* that adds the practical programming experience aspects to this course. Participants are assumed to work on assignments (specification and programming) throughout the term.

Hours per Week / Semester: 4 / winter	**Teaching Method:** Lectures (3) and tutorials (1)
Credits: 6	**Examination:** 90 Minutes written examination

Basics of Information Technology: Practical Introduction into Java

Objective: To provide students with a basic understanding of the concepts and techniques required when programming in Java. Students should be able to develop small programs for simple problems on their own using the correct choice of data and control structures as provided by the Java programming language. Students should know and apply the concepts of structuring and abstraction offered in the object-oriented paradigm. Students should be familiar with the different steps involved in developing programs and should be able to use common tools (editor, compiler, documentation, libraries) needed when programming.
Contents: The course is held in combination with the course *Introduction to Computer Science* and provides the practical programming background for that course. It discusses the main concepts of Java as an enabling technology for object-oriented Programming in the Small and introduces to the abstraction and structuring techniques offered by Java like, e.g. interfaces, abstract classes, inheritance and implementation relations, polymorphic typing, packages and visibility rules. Besides discussing the detailed Java-specific aspects, the course puts an emphasis on relating all these concepts to the underlying techniques used in each programming language.
Literature:

1. John Lewis, Joseph Chase: Java Software Structures. Pearson/Addison-Wesley, 2005 (2nd)
2. Bert Bates, Kathy Sierra: Head First Java. O'Reilly, 2005 (2nd)

Organization: The course is held in the last three month of the term after the prerequisites have been discussed in the *Introduction to Computer Science* course. Part of the course is organized as lab studies where all participants are required to attend. Participants are assumed to work on assignments (programming) throughout the term.

Hours per Week / Semester:	**Teaching Method:**
2 / winter	Lectures (1) and tutorials (1)
Credits:	**Examination:**
3	90 Minutes written examination

Basics of Information Technology: Computer-Architecture/Operating Systems

Objective: To provide students with a basic understanding of the principles of modern hardware systems and the relationships between hardware and operating systems issues.
Contents: The course discusses the stepwise development of hardware from basics like Boolean algebra to the implementation of circuits and registers, introduces to the von-Neumann architecture and more advanced modern RISC and CISC computers using parallelism and pipelining, gives an overview of typical assembler languages and their implementation and relates architectural issues to the basic principles of system software (Synchronisation and scheduling of processes and resources, virtual memory techniques, file systems etc.) as used in modern operating systems like Windows and Unix-Derivates.
Literature:

1. Andrew S. Tanenbaum und James Goodman: *Computer Architecture*. Prentice Hall, 2004
2. Douglas E. Comer: *Essentials of Computer Architecture.* Pearson/Prentice Hall, 2005(1th)
3. Silberschatz, A./Gagne, G./Galvin, P. B.: Operating Systems Concepts. John Wiley and Sons, 2005 (7th)
4. Andrew S. Tanenbaum: *Modern Operating Systems.* Prentice-Hall 2003 (2nd)
5. John L. Hennessy, David A. Patterson: Computer Architecture Morgan Kaufmann, 2002, (3rd)

Organization: Participants are assumed to work on assignments (which includes thread-based programming and synchronisation in Java) throughout the term.

Hours per Week / Semester:	**Teaching Method:**
4 / winter	Lectures (3) and tutorials (1)
Credits:	**Examination:**
6	90 Minutes written examination

Advanced Studies (3rd - 5th year)

Software Development Techniques

Prerequisites: A basic understanding of and experience in Java programming as well as of implementing simple algorithms (e.g., provided through basic studies).
Objective: Students gain an overview of state-of-the-art approaches to tackle software complexity and an in-depth understanding of the most important paradigms used in the area.
Contents: The course discusses the different approaches to software engineering with a focus on design, implementation and testing. Advanced concepts include architecture-centric approaches to systems and software engineering, Pattern- as well as Component-based software development. The discussion is based on examples from operating systems, middleware and user interface management systems.
Literature:

1. Sommerville, Ian: Software Engineering, 6. Auflage, Pearson Studium,Addison-Wesley 2001
2. Leszek Maciaszek and Bruc Lee Liong: Practical Software Engineering: A Case-Study Approach. Addison-Wesley 2005
3. Kim Walden, Jean-Marc Nerson : Seamless Object-Oriented Software Architecture - Analysis and Design of Reliable Systems, Prentice Hall, 1995
4. Erich Gamma, Richard Helm, Ralph Johnson, and John Vlissides: Design Patterns - Elements of Reusable Object-Oriented Software, Addison-Wesley 1995
5. Eric Freeman, Elisabeth Freeman, Kathy Sierra, Bert Bates: Head First Design Patterns, O'Reilly, 2004 (1th)

Organization: The course is organized in combination with the course Software Techniques Lab that adds the practical programming and project experience aspects to this course. Because this course provides the conceptual background for the lab, the course is mainly scheduled for the first part of each summer term.

Hours per Week / Semester: 4/summer	**Teaching Method:** Lectures (1) and tutorials (1)
Credits: 3	**Examination:** 90 minute written examination and a*ssessments*

Software Techniques Laboratory

Prerequisites: see *Software Development Techniques*

Objective: To expose students to the problems involved in developing complex applications in software projects organized as interacting as well as concurring subprojects/groups. Students gain a first insight into the problems caused by software complexity and project work.

Contents: The lab provides a guided tour through all phases of developing a complex software project using state-of-the-art technology for object-orientied programming languages, libraries, software development environments, testing, logging and documentation tools as well as version control systems.

Organization: The course is held in the last three month of the term after the prerequisites have been discussed in the *Software Techniques* course. The course is mainly organized as a lab project where participants are required to word in interacting subgroups to implement a common software project.

Hours per Week / Semester: 4/summer	**Teaching Method:** Tutorial (2)/Lab Project (2)
Credits: 6	**Examination:** 20 minute oral examination and assessments

Practical Computer Science: Distributed & Mobile Systems (DMS)

Note: the following courses (DMS-I to III) are offered as a 2-3 semester curriculum for specializing in the field of practical computer science; at least DMS-I and DMS-II should be enrolled in the prescribed order. Depending on the specific topics discussed in the seminars (DMS-Sem, see below), attendance to the seminars may be permitted without the DMS-I and DMS-II (so-called *Hauptseminar*).

DMS-I: Introduction to Distributed and Mobile Systems

Prerequisites: A basic understanding of computer networks, operating systems at least as it is offered by the course *Computer Architecture and Operating Systems* (basic studies), experience in Java programming.

Objective: To expose students to the problems involved in designing and programming parallel and distributed applications. To gain an in-depth understanding of the most important paradigms used in the area.

Contents: The course gives an introduction into the characteristics and most important applications of distributed systems, discusses the technical basics as well as typical distributed algorithms and provides a first overview over state-of-the-art middleware systems:
(1) Introduction: characteristics, pros/cons for distributed systems, typical applications;
(2) Basics and Technological Background: states, events, processes, non-determinism, concurrency, dependencies, cooperation vs. competition, deadlocks, fairness, starvation; classification of computer architectures, static and dynamic computer networks, operating system issues, tasks and threads

(3) Interaction Paradigms: Heterogeneous systems and protocols, shared vs. distributed memory, message passing: ports, channels, mailboxes, synchronous vs. asynchronous; Client/Server: RPC, naming, binding, protocols, parameter handling, error handling semantics, call backs; Group communication: broadcast and multicast, group management, semantics issues; LINDA coordination. Throughout this chapter, practical issues using Java are handled in assignments: Threads, synchronization, socket communication (stream and datagram), Java RMI, Java Spaces;
(4) Basic Distributed Algorithms: real and logical time in distributed systems, message ordering, distributed mutual exclusion, termination and deadlock detection, consistent global snapshots, agreement protocols;
(5) Distributed Middleware: (sketch): single-system image, failure tolerant systems, replication of active and passive components, consistency issues, short overview of state-of-the-art middleware systems

Literature

1. Andrew S. Tanenbaum, Marten van Steen: *Distributed Systems*, Prentice Hall 2003, 803pp., ISBN 0-13-088893-1
2. G. Coulouris, J. Dollimore and T. Kindberg: *Distributed Systems - Concepts and Design*, 2001(2nd), Addison-Wesley
3. Pradeep K. Sinha: *Distributed Operating Systems - Concepts and Design* IEEE CS Press, 1997, ISBN 0-7803-1119-1
4. M. Shinghal and N.G. Shivaratri: *Advanced Concepts in Operating Systems*, Mc Graw-Hill, Inc. 1995
5. Nancy A. Lynch: *Distributed Algorithms*.Morgan-Kaufmann Publ. , 2000 (5th)

Organization: The course is offered each winter term, consists of 3 hours lecture and 1 hour tutorial/lab each week organized as 2 hour tutorial each second week. Participants are assumed to work on programming assignments throughout the term.

Hours per Week / Semester: 4/winter	**Teaching Method:** Lectures (3) and tutorials (1)
Credits: 6	**Examination:** 90 minute written examination and *part* of final oral examination (20 minutes)